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ORIGINAL ARTICLES.

TUMORS OF THE BRAIN IN CHILDHOOD.

Their Variety and Situation, with Special Reference to their Treatment by Surgical Interference.[1]

BY M. ALLEN STARR, M.D., PH.D,

CLINICAL PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

UNTIL a recent date the subject of intracranial tumors in childhood has appeared to be one of so little practical importance that it has received but little attention. The interest in a case of tumor of the brain appeared to end with the diagnosis, and there was no class of cases which presented a more hopeless prognosis. Medical treatment was admitted to be useless, and surgical interference was not supposed to be possible.

But the very remarkable advances of recent years in the knowledge of the localization of cerebral functions has made it possible to diagnosticate the existence and the location of cerebral tumor with much greater accuracy than formerly. And the equally marvellous achievements of cerebral surgery offer a hope of the possibility of treatment. It seems, therefore, that any study of cerebral tumors at present is not ill-timed, and since no article upon this subject has been published, excepting the chapter by Steffan, in Gerhardt's *Handbuch der Kinderkrankheiten*, written eight years ago, it has occurred to me that a presentation of the subject as relating to children would prove both interesting and profitable.

All authorities upon brain tumor agree that it is a disease which is equally frequent at all ages. Gowers, indeed, states that one-third of all the cases occur in persons below the age of twenty. And a study of the three hundred cases which form the basis of this article shows that infants, children, and youth are about equally liable to develop tumor within the cranium. Males are more liable than females in the proportion of about three to two. It is evident, therefore, that those who see much of children's diseases are almost as likely to meet with cases of tumor of the brain as are general practitioners. In the list of organic nervous diseases of childhood, cerebral tumors stand high, being only exceeded in frequency by meningitis, spinal paralysis, and cerebral hemorrhage.

[1] Read before the Section on Pædiatrics, New York Academy of Medicine, November 28, 1888.

Such being the importance of this subject, a careful study of it seems necessary. As a basis for such a study I have collected three hundred cases of cerebral tumor occurring in persons below the age of nineteen. It is true that individuals between fifteen and nineteen can hardly be called children, but, as a matter of fact, cerebral tumor is a slowly progressing disease, and it had, in the majority of the cases collected, developed from two to ten years before death. It seemed, therefore, necessary to include all cases which had terminated prior to the age of nineteen.

These cases have been derived from numerous sources, and inasmuch as collections of cases made by different authors often include the same cases, I may state that there are no duplicates in this collection. About one hundred of these cases have been taken from Bernhardt's collection of brain tumors, published in 1881. About ninety of them were found in Steffan's article, already mentioned, published in 1880. The remainder have been brought together from the medical journals published since 1880; and I may say that the majority of the German, French, English, and American periodicals have been carefully searched and all the cases in them tabulated.

Table I. shows the variety of tumors found, the situation occupied by each variety, and the proportion of tumors of each variety in each location; and it affords data for a discussion of the possibility of surgical interference.

I. *The variety of tumors* found in children is great, but the overwhelming frequency of tubercular tumors is at once evident (over one-half of the entire number), and also the great rarity of carcinoma and gumma in childhood. This latter point is of interest, for a somewhat similar table of tumors in adults would show that above the age of nineteen gumma is much more frequent than any other form of tumor. It is also to be noticed that tubercular tumors are not infrequently multiple, a fact which should not be forgotten in making a diagnosis of the seat of the disease.

Glioma and sarcoma follow tubercle in frequency and make up about one-tenth of the cases each. Cysts of the brain may arise either in connection with sarcomata or independently, as the result of parasitic infection. Hydatid cysts, echinococcus, and cysticercus are very much more frequently met

TABLE I.—BRAIN TUMORS IN CHILDHOOD AND YOUTH.

Situation.	Tuberculous.	Glomatous.	Sarcomatous.	Glio-sarcomatous	Cystic.	Carcinomatous.	Gummatous.	Not stated.	Total.
I. Cerebral axis:									
1. Basal ganglia and lateral ventricles	14	3	5	...	1	1	...	3	27
2. Corpora quadrigemina and crura cerebri	16	1	3	...	...	...	...	1	21
3. Pons	19	10	5	2	1	...	...	1	38
4. Medulla	2	...	...	...	1	2	...	1	6
5. Base	...	...	1	1	1	1	...	4	8
6. Fourth ventricle	1	1	1	...	...	1	...	1	5
II. Cerebellum	47	15	10	1	9	3	...	11	96
III. Multiple tumors	34	...	3	...	2	...	1	3	43
IV. Cortex cerebri	13	6	1	...	...	1	...	...	21
V. Centrum ovale and corpus callosum	6	1	5	1	15	1	1	5	35
	152	37	34	5	30	10	2	30	300

with in the German records than in English or American journals. Kuchenmeister, in an article on this subject, has collected eighty-eight cases, but I have not included them in the table, as they would give an appearance of undue frequency of this disease, which would mislead. In America a cerebral cyst of parasitic origin is a curiosity, and but few cases are to be found in our journals. Carcinoma of the brain alone is a great rarity, and among the cases tabulated are four which invaded the brain secondarily, after beginning in the retina of one eye, a not infrequent form of the disease in childhood.

In comparing this list of the relative frequency of the various forms of tumors with smaller lists, I find that the relative frequency is about the same in all lists; and, therefore, I think that this may be considered fairly reliable, though statistics are always to be looked at with care.

The diagnosis of the kind of tumor present is always a matter of probability in any case; and, hence, such a list has a certain diagnostic value. It will, of course, occur to any one in the presence of a child with brain tumor to inquire carefully into any history of hereditary tendency to tubercular disease, and to examine carefully for other evidence of tuberculosis, such as enlarged glands, scrofulous joint disease or phthisis, chronic diarrhœa, etc. Occasionally the tubercular tumor has been found, after death, to be the only manifestation of infection, but this is not the rule. Tubercular tumors are so frequently multiple that the occurrence of local symptoms pointing to more than one tumor will also point to tubercular tumors.

The determination of the question as to the existence of tubercular disease is of the greatest importance, in view of the possibility of surgical interference. Supposing that a brain tumor is diagnosticated, and is located in a place accessible by trephining: if it is thought to be tubercular is an operation justifiable? Such an operation may prolong life, but the disease may reappear in the brain or elsewhere. The operation is certainly attended by greater danger than in a non-tubercular person. Yet the existence of tuberculosis does not prevent the surgeon from attacking tubercular joints or tubercular testicle. Should it prevent his attacking a brain tumor? Von Bergmann[1] thinks that it should, affirming that it is impossible to remove the cheesy masses from the soft brain coverings and tissue with the thoroughness that is possible in dealing with bones. He claims that the operation will be incomplete, and that a relapse in then certain. English surgeons have taken a different view, and have removed successfully several tubercular tumors completely without relapse. But further experience is certainly necessary before any rule can be laid down in the matter. The greatest drawback met with in dealing with tubercular tumors by surgical measures is the possibility of the presence of more than one tumor, the failure to detect and remove more than one, and the consequent need of a second operation when the second tumor develops sufficiently to give rise to special symptoms.

If there is no probability in a case of tumor that tubercular disease is present, the diagnosis of the kind of tumor present is difficult. Gumma is so very rare that unless a distinct history of acquired syphilis with other syphilitic manifestations, and the occurrence of nocturnal headache and insomnia are present, it may be dismissed as a most unlikely form of disease. Carcinoma of the brain, though in a few cases primary, is usually secondary to carcinoma elsewhere. Should such a tumor be found in the body, especially if it should be found in the orbit and in connection with the retina, the diagnosis of the cerebral tumor can be made. Otherwise, it cannot be thought probable. To remove a secondary cancer in the brain when the primary cancer remained would hardly be undertaken by any good surgeon.

Cysts in the brain of parasitic origin form very slowly, never destroy but always displace the brain tissue, and rarely, if ever, give rise to localized symptoms. In a case of brain tumor in which the

[1] Chirurg. Behandl. d. Hirnkrankheiten, p. 58.

symptoms are all general and not local the possibility of cyst should not be overlooked, and the child's history should be investigated in regard to any exposure to infection, the presence of tapeworm or of hydatid tumors elsewhere. There is no reason why such cysts should not be removed.

The remaining varieties of tumor—glioma, sarcoma, or gliosarcoma—cannot be absolutely differentiated from each other. Occasionally sarcomata in other regions of the body may lead to the suspicion that there is one in the brain, but in the thirty-four cases here brought together, there was a sarcoma elsewhere than in the brain, in only four. Hence, this point of diagnosis is not to be relied upon. Glioma and sarcoma may be equally slow in growth, may produce very marked symptoms or none at all, and do not differ markedly in their selection of situations in which to develop. Bramwell believes that glioma starts in the white matter and invades the gray matter. Ziegler affirms the contrary, and certainly the cases here cited confirm the statement of the German pathologist; but from a disputed pathological question no diagnostic conclusions can be drawn. Nor does the mode of origin throw any light upon the differentiation of sarcoma and glioma, for both result from blows and falls upon the head with equal frequency.

There is but one fact which may make a differentiation possible, viz.: that glioma is usually very vascular, much more so than any other tumor. A tumor which is vascular varies very much in its size, being, as it were, erectile. Variations in size within the brain are impossible, but the corresponding condition to erection in such tumors is an increase of intracranial pressure. Variations of intracranial pressure manifest themselves, subjectively, by varying intensity of symptoms, and by the possibility of modifying symptoms by means of agents which affect the blood pressure, and objectively by the state of venous congestion of the retina. Furthermore, in glioma, hemorrhages within or near the tumor sometimes occur, giving rise to symptoms of apoplexy. Therefore, in a case of tumor, great and sudden changes of intensity in the symptoms, accompanied by visible changes of circulation in the retina, and affected in one way or another by such measures as hot baths, cold douches to the spine, hot mustard baths to the feet, or free watery purgation will indicate a vascular tumor, probably a glioma. And this diagnosis will be reinforced by the occurrence of attacks apoplectic in character in the course of the case. See Case 42, Table II. And yet there are cases of glioma in which the tumor is quite hard and encapsulated, and in which these symptoms will be wanting.

But there is a practical application of these points of diagnosis regarding the vascularity of the tumor in view of surgical interference. The form of tumor most suitable for removal is the hard, encapsulated, non-vascular tumor. That is the usual form of sarcoma, and is occasionally the form of gliosarcoma and glioma. A case, therefore, is much more suitable for operation in which no vascular symptoms, such as those mentioned, are present, whether it be sarcoma or glioma. And, *vice versa*, a tumor showing marked vascular symptoms will not be a favorable one for operation, no matter what its variety or position.

II. Passing now from the consideration of the varieties of brain tumor and their differentiation, let us look at *the situation of the tumor.*

It is evident from Table II. that all parts of the brain may be invaded by tumor, but that certain parts are invaded with special frequency in childhood. These parts are the cerebral axis and the cerebellum. By the cerebral axis is meant that part of the brain which includes the basal ganglia and internal capsule; the corpora quadrigemina and crura cerebri; the pons and the medulla oblongata;[1] and which lies upon the cranial floor and is therefore invaded by tumors lying upon the base of the brain. Of the tumors collected, about one-third were in the cerebral axis. The diagnosis of such tumors is not difficult, as they usually give rise to very numerous local symptoms. It is not my purpose to discuss these here: they may be found in all the recent articles upon the local diagnosis of cerebral disease. The point of interest is that no case of tumor of the cerebral axis can be reached by the surgeon. The situation of the parts is such that a tumor in them is not near enough to the convex surface of the skull to be accessible. And, therefore, in estimating the number of the cerebral tumors in this collection which might have been the subject of surgical treatment, this class, constituting one-third of the number, must be at once excluded.

Coming next to tumors of the cerebellum we find that they number 96. They are much more common in children than in adults. Thus, in a collection of American cases of cerebral tumor without regard to age, which I have made, I find that of 45 cortical tumors 3 occurred below the age of nineteen, while of 29 cerebellar tumors 11 occurred below the age of nineteen: or, to put it more clearly, fifteen cortical tumors occur in adults for every one in a child, while only two cerebellar tumors occur in adults for every one in a child. It is, therefore, evident that children are especially liable to develop cerebellar tumors.

The diagnosis of cerebellar tumor is not difficult. The general symptoms of brain tumor are fully and rapidly developed, viz.: headache; mental disturbance, irritability, and apathy; vertigo; vomiting; optic neuritis, with or without blindness, and possi-

[1] The cerebral axis is represented by Fig. 376 in Quain's Anatomy, vol. ii., eighth edition.

TABLE II.—CASES OF CORTICAL AND SUBCORTICAL TUMORS.

No.	Author; reference.	Sex, age.	Variety and position of tumor.	General symptoms.	Local symptoms	Remarks.
1	Steiner, in Bernhardt, Beiträge zur Sympt. u. Diag. d. Hirngeschwülste, p. 105.	M. 3	Tubercular tumor, size of hen's egg, in anterior part of right hemisphere.	None.	None.	Tuberculosis of lungs and glands. Diagnosis and operation impossible.
2	Bettelheim, in Bernhardt, l. c. p. 103.	M. 13	Large ecchinococcus cyst in left frontal lobe near its apex.	Headache; optic neuritis; vomiting; sopor; slow pulse.	Prominence of eyeballs; impaired memory; right hemispasms with hemiplegia and weakness of legs	Diagnosis possible if the onset of the spasms and paralysis was gradual and progressive. Operation impossible.
3	Petrina, in Mills, Pepper's Syst. Med., v.p.1069.	M. 16	Glioma within both frontal lobes extending to base and elevating the corp. callos.	Frontal headache; optic neuritis; vomiting; mental failure; slow pulse.	Irritability and weakness of mind, with erratic conduct; impaired vesical control; choreic and automatic movements of right arm, with tremor.	Diagnosis and operation impossible.
4	Henoch, in Bernhardt, l. c. p. 73.	F. 3	Tubercle, size of pigeon's egg, on cortex of posterior part of right frontal lobe.	Convulsions; somnolence.	Left hemiplegia, with contractures.	Diagnosis and operation impossible.
5	Archer, in Bernhardt, l. c. p. 73.	F. 11	Tubercle in first and second left frontal gyri reaching the cortex.	Headache; convulsions; stupidity.	None.	Hip-joint disease. Diagnosis impossible; operation possible.
6	Neureutter, in Steffan, Handbuch der Kinderkr. art. Geschwülste, Bd. v. p. 631.	F. 3	Tubercle, size of bean in left frontal lobe; another in cerebellar cortex; tubercular meningitis of base.	Occipital headache; insomnia; convulsions at first general, later local spasms; spastic contractions; marasmus.	Spasms in left limbs, then contracture of left wrist and neck; later extension of left leg; opisthotonus; trismus.	Rachitis. Diagnosis of position impossible; operation impossible and useless.
7	Mills, Jour. Ment. and Nerv. Dis., 1887, p. 707.	M. 16	Reddish-gray tumor 3 x 2½ x 2½ inches, involved the second frontal gyrus and parts of adjacent gyri, and invaded the white matter without reaching the corp. striatum on the right side.	After blow on head convulsions for one year; then vomiting, headache, weakness, staggering gait; next day diplopia, vertigo; paræsthesia; hunger.	Left facial palsy; paresis of left arm and leg; stiffness of arms and legs, with paræsthesia; slight ptosis of right eye.	Diagnosis and operation impossible.
8	Fleischmann, in Steffan, l. c. p. 625.	F. 5	Tubercular tumor on under surface of left frontal lobe; another at summit of convexity of right hemisphere; tubercular meningitis.	Headache; vomiting; attacks of screaming.	Left third paretic; later, right third paretic.	Diagnosis and operation impossible.
9	Escribano, in Bernhardt, l. c. p. 108.	M. 18	Two tumors, size of chestnuts, in left frontal lobe.	Headache; vomiting; epilepsy.	None.	Diagnosis and operation impossible.
10	Morgan, in Bernhardt, l. c. p. 97.	F. 7	Large echinococcus cyst in right anterior and middle lobes, destroying basal ganglia.	Intelligence weakened; pupils dilated, later blindness; convergent strabismus of left eye; numbness and weakness of legs; later, incoördination and contractures.	None.	Healthy-looking child; other cysts elsewhere. Diagnosis and operation impossible.
11	Reimer, in Steffan, l. c. p. 631.	M. 5	Tubercular tumor in right centrum ovale at junction of frontal and middle lobes surrounded by a zone of softening; tubercular meningitis.	Frontal headache; vomiting; attacks of screaming; slow pulse, at times irregular; delirium; convulsions; sopor.	None.	Rachitis; scrofula. Diagnosis and operation impossible.
12	Rothmund, in Bernhardt, l. c. p. 99.	F. 13	Sarcoma, size of hen's egg, in middle lobe of right hemisphere.	Periodical headache, with vomiting; optic neuritis; sudden death during attack of headache.	None.	Diagnosis and operation impossible.
13	Visconti, in Bernhardt, l. c. p. 98.	M. 18	Large echinococcus cyst in right hemisphere.	Periodical headaches; right tinnitus aurium; occasional loss of consciousness; staggering gait.	Double vision; trigeminal nerve very sensitive; retraction of head and neck; tetanic spasms of neck before death.	Diagnosis and operation impossible.
14	Arnott, in Bernhardt, l. c. p. 97.	M. 4½	Four tubercles in right hemisphere, each size of hen's egg.	Convulsions; death in coma.	Paralysis of right arm.	Diagnosis and operation impossible.
15	Merkel, in Steffan, l. c. p. 632.	M. 5	Four cysts in left hemisphere in its parietal lobe	Headache; general convulsions.	Gradual paresis of right arm, with deficient growth.	Left parietal bone thin and bulging. Diagnosis and operation impossible.

TABLE II.—*Continued.*

No.	Author; reference	Sex, age.	Variety and position of tumor.	General symptoms.	Local symptoms.	Remarks.
16	Steffan, l. c. p. 626.	M. 2	Cancerous mass on base and in right temporal lobe.	No cerebral symptoms.	Cancer of right eye was removed.	Diagnosis and operation impossible.
17	Hutchinson, in Bernhardt, l. c. p. 103.	F. 13	Hard tumor, size of nut, in the middle of the left frontal lobe, with surrounding softening.	Symptoms followed an injury of the head.	Right-sided spasms; gradual contracture of right arm; anæsthesia of back of right hand; paresis of right leg.	Diagnosis possible; operation possible, but expectation of cortical tumor being disappointed, deep incision to find tumor necessary.
18	Glynn, in Bernhardt, l. c. p. 123.	M. 13	Tumor, size of orange, in white matter of both right central convolutions.	Headache; optic neuritis; blindness.	Left-sided spasms; left hemiplegia.	Diagnosis only probable, unless location of spasms and progress of paralysis were noticed. Operation possible.
19	Assagioli, in Roland, l'Epilepsie Jacksonienne, case 63.	F. 10	Tubercular mass of irregular shape in cortex of paracentral lobule and quadrate lobule of left hemisphere.	None noted.	Spasm beginning in right leg and extending to arm, back, neck, and face, in order named; spasms at times in right leg only.	Diagnosis and operation possible.
20	Osler, American Journ. Med. Sci., 1885, i. 31.	F. 15	Glioma in upper third of anterior central convolution under the cortex on right side	Injury to head when an infant: symptoms intermitted for some years.	Spasms beginning in left hand or in left foot, extending to face; left leg paretic and contracted.	Diagnosis and operation possible.
21	Connor, cited by Starr, Amer. Journ. Med. Sci., case lxv., 1884.	M. 17	Cystic glioma in right centrum semiovale under upper half of anterior central convolution, and invading frontal convolution.	Headache; optic neuritis; convulsions; gradual mental failure; delirium; loss of sphincter control; duration two years.	Spasms and paresis of left arm, increasing to paralysis in it four months before death.	Diagnosis possible four months before death. Operation possible then, but prognosis bad.
22	Janeway, cited by Starr, l. c., case lxvi.	M. 13	Glioma, size of orange, firm, lobular in upper two-thirds of right convolutions, extending into adjacent gyri.	Fall on head, followed in two weeks by headache, then by vomiting, in fourth month; death in fifth month.	Two weeks after fall paresis of left arm and leg; then spasms in left shoulder, arm, and hand; in five months left arm and leg weak, stiff; pain in left leg; left ear deaf; smell lost in right nostril.	Diagnosis possible at four months. Operation possible then with good results.
23	Reimer, in Steffan, l. c. p. 624.	M. 12	Six tubercular tumors in anterior central convolution of each hemisphere.	Headache; weakness; nausea; vomiting; blindness; duration two years.	Spasms in left leg and arm; spasms in right side; paresis of left leg and right face, and slight anæsthesia in both.	Chronic pneumonia; tubercular glands. Diagnosis of multiple tumor possible; operation impossible.
24	Seeligmüller, Jahrbk. f. kindheilk., xiii. p. 322.	F. 4	Tubercle in right anterior central convolution in middle third, size of cherry.	Tubercular glands in neck.	Spasms of left arm daily or oftener, followed by paresis of left arm for two months before death; internal strabismus of left eye.	Diagnosis and operation possible.
25	Duchek, in Bernhardt, l. c. p. 65.	M. 8	Tubercle in convexity of left hemisphere extending inward toward the optic thalamus.	General tuberculosis.	Spasms of right arm, extending to the face; later right leg involved in the spasm; finally, right hemiplegia.	Diagnosis and operation possible; operation unadvisable in view of general tuberculosis.
26	Gliky, in Bernhardt, l. c. p 66.	M. 15	Glioma in both right central convolutions with invasion of adjacent areas.	Headache in right temple; vomiting.	Spasms in left arm, with weakness, and finally, atrophy of the arm, without anæsthesia; left hemiparesis with twitchings in extremities.	Diagnosis and operation possible, early.
27	Morelli, in Bernhardt, l. c. p. 67.	F. 18	Tubercle in middle third of left posterior central convolution, extending forward and inward toward lenticular nucleus.	No tuberculosis elsewhere.	Spasms of right arm, followed by choreic movements in right arm; the spasm occasionally extended to the right leg; pain in right arm.	Diagnosis possible; operation possible and advisable.
28	Rosenthal in Bernhardt, l. c. p. 72.	M. 17	Tubercle in middle third of left anterior central convolution, involving second frontal convolution slightly.	Headache; vomiting; vertigo; tuberculosis not mentioned.	Spasm of right hand, extending to right face, followed by paresis in both; pain in right hand.	Diagnosis and operation possible.
29	Henoch, in Bernhardt, l. c. p. 74.	M. 2	Tubercle in middle third of left anterior central convolution; localized tubercular meningitis over left frontal lobe.	Somnolence; nystagmus of left eye; tuberculosis not mentioned.	Tremor of right arm; twitching of right corner of mouth; later, tremor of head and right leg, with spasms of right side of trunk and abdomen; paresis of right arm.	Diagnosis and operation possible after onset of paresis in arm.

TABLE II.—*Concluded.*

No.	Author; reference.	Sex, age.	Variety and position of tumor.	General symptoms.	Local symptoms.	Remarks.
30	Barling, Trans. London Path. Soc., p. 42, 1887.	M. 12	Tubercular tumor at upper part of left central hemisphere at junction of anterior and middle lobes; on surface large as walnut, easily separable from brain tissue; similar smaller tumor on base of same hemisphere.	Convulsions; symptoms of albuminuria; mental dulness.	Spasms of right side without loss af consciousness continuing for five days, followed by partial paralysis of right arm with some jerky movement The paralysis increased and extended to right face and leg; death after five weeks.	Diagnosis and operation possible, but second tumor would not have been detected.
31	Duchek, in Bernhardt, l. c. p. 68.	M. 18	Tubercle of "summit" of left hemisphere in the central area, extending downward toward the optic thalamus; softening around it.	Convulsions.	Spasms in right arm and leg, often beginning in the leg; later, right hemiplegia.	Diagnosis and operation possible.
(*a*)	Sodermark, Jahrb. f. kinderhk., xxiii. 462.	M. 3	Hard, gray tumor, size of pear, in left lateral ventricle; congestion of membranes.	Headache; vomiting.	Flexor contraction of right arm, and spasms of right arm and face occurring daily in attacks during which he cried and was alarmed, and in which eyes were turned to right.	Diagnosis and operation impossible; probable diagnosis of cortical tumor in motor area would have been wrong.
(*b*)	Rolland, l. c. p. 44.	F. 14	Sarcoma in left ventricle and in optic thalamus, undermining frontal convolutions.	Headache; blindness; growth of head; general weakness.	Attacks of right-sided spasms, beginning in right hand and extending to entire body.	Diagnosis and operation impossible; probable diagnosis of cortical tumor wrong.
32	Buzzard, Lect on Dis. of Nerv. Syst., pp. 429 and 437.	F. 14	Small red tumor, size of walnut in white substance of left hemisphere above middle of lateral ventricle.	.....	Epilepsy with loss of consciousness, aura beginning in left wrist, which was transferred to right wrist by circular blister.	Diagnosis and operation impossible; probable diagnosis from aura of tumor in motor area wrong. In last three, operation might have been undertaken, but must have failed.
33	Ciccimarra, in Bernhardt, l. c. p. 105.	M. 9	Echinococcus cyst, size of fist, in left parietal region, reaching lateral ventricle.	Headache; vomiting; convulsions; blindness; duration ten weeks.	Facial spasm on left side; hallucinations of light with blindness. (Visual field not tested.)	Diagnosis and operation impossible.
34	Smith, in Bernhardt, l. c. p. 106.	M. 5½	Fibro-sarcoma, with cyst size of orange, in right parietal and occipital lobes.	Headache; weakness and tremor of all limbs; rigidity of back and legs; paralysis of sphincter; convulsions; optic neuritis; vomiting; nystagmus and internal squint.	(Visual field not tested.)	Diagnosis and operation impossible.
35	Henoch, in Bernhardt, l. c. p. 74.	M. 1	Tubercle, size of pigeon's egg, in left occipital cortex; tubercular meningitis.	Stupor; convulsions; apathy; anæsthesia.	(Vision and field not tested.)	Diagnosis and operation impossible.
36	Fleischmann, in Steffan, l. c. p. 625.	F. 8	Tubercle, size of hen's egg, in left occipital lobe; second tubercle in right hemisphere of cerebellum.	Headache for a long time; general convulsions; blindness, with optic neuritis.	Right eye first became blind. (Visual field not tested.)	Diagnosis and operation possible, if hemianopsia had been found; second tumor would have been undetected.
37	Koster, in Bernhardt, l. c. p. 108.	F. 5	Gliosarcoma, size of lemon, in left occipital lobe, nearly reaching thalamus.	Headache; delirium; optic neuritis; hunger; restlessness.	Difficulty in finding words in speech. (Sensory aphasia. Visual field not tested.)	Diagnosis and operation possible if hemianopsia had been found.
38	Huguenin, in Seguin on Hemianopsia, Journ. Nerv. and Men. Dis., p. 23, 1886.	F. 8	Tubercular tumor near apex of right occipital lobe on mesal aspect in cuneus; second tumor at apex left frontal lobe.	Headache; optic neuritis; vomiting; insomnia; general convulsions; dementia.	Left homonymous hemianopsia; appeared late.	Diagnosis and operation possible after hemianopsia appeared; second tumor would have been undetected.
39	Bagg, cited by Starr, l. c., case xlii.	M. 13	Carcinoma in left temporo-occipital lobe.	Headache; blindness; exophthalmos; muscular pains.	Visual field not tested.	Diagnosis and operation impossible.
40	Mills, Journal Mental and Nervous Diseases, p. 716, 1887.	F. 12	Glioma of right temporal lobe 3 x 1½ x 1½ in, with extensive hemorrhage in cavity.	Fall, followed by headache in right temporo-occipital region, where tenderness was present; slight blindness; stupidity; optic neuritis.	Paralysis of arm and paresis of leg on left side came on suddenly in seventh month; speech thick and indistinct.	Diagnosis and operation impossible, though carefully considered.

bly general convulsions. These present themselves in rapid succession because the situation of the tumor beneath the tentorium cerebelli is such as to obstruct the venous flow from the venæ Galeni, and the free interchange of fluid between and through the ventricles, and to produce both general hydrocephalus and a stretching of the dura mater which are supposed to cause many of the general symptoms of brain tumor. It may be remarked that while headache is almost invariably present in cerebellar tumor, and is often referred to the back of the head, it may be felt at any part of the head, and is as frequently frontal or temporal, as it is occipital. In many of the tumors here collected, the headache was entirely frontal. The pain does not indicate, therefore, the seat of the tumor. Tenderness to percussion over the occiput is, however, a valuable sign of cerebellar disease.

But, in addition to the general symptoms of tumor, there are local symptoms of great value. These are vertigo and cerebellar ataxia, or the staggering gait. The patient feels himself falling in a certain direction, staggers in walking, and often staggers toward one side with remarkable constancy. Time does not permit of a discussion of the origin of these local symptoms, but they are of great value. Their occurrence indicates that the middle lobe of the cerebellum is either the seat of the tumor, or is encroached upon by a tumor in the hemispheres. If they occur quite early in relation to the general symptoms, it is the middle lobe in which the tumor began. If they occur late, after many months of suffering, the tumor has started in a hemisphere, given rise to general symptoms, and has at last reached the middle lobe and produced the local symptoms. The question at once arises, In which hemisphere has it begun? And here we are often in the dark. Patients are said to stagger, in walking, away from the side on which the tumor lies. Nothnagel and Bramwell affirm this, and I have seen four cases in adults in which this has been true as shown by autopsy. But if there is no tendency toward one side in walking, there may be a tendency to fall forward or backward. As yet, no assertion is possible as to the significance of this symptom, as it is impossible during life to determine whether it is due to irritation or destruction of tissue.

When these symptoms fail it is sometimes possible to determine which hemisphere is invaded by the tumor, by observing on which side cranial nerve symptoms, such as strabismus, facial anæsthesia or paresis, deafness, or retraction of the head, appear. They usually come first on the side of the tumor, as this, by its presence, crowds the cerebellum down upon the base of the brain and presses on the nerves. Paralysis of one fourth nerve, though difficult to detect, is a valuable symptom, as it always occurs on the side of the tumor.

By compressing one side of the pons or medulla a tumor may cause paresis or numbness, or increased reflexes in the opposite arm and leg, and these symptoms may aid the diagnosis. Many of these local symptoms were present in a case under my care and subsequently seen by Dr. Lewis Smith, and they enabled a correct diagnosis of the seat of the tumor to be made.[1]

The diagnosis being made, the question of operation arises: Can tumors of the cerebellum be removed? The cerebellum presents but one of its three surfaces to the skull, and there is, as yet, no means of determining whether a tumor is near that surface or not. Any operation must, therefore, be primarily exploratory.

In case a tumor is seen upon the exposed surface, it may be removed. But great care should be observed in the manipulations about the cerebellar hemispheres in order that the medulla may not be compressed, or the pneumogastric nerves torn or stretched in the process. Three cases of cerebellar tumor in young persons have been removed, and in all three death occurred within forty-eight hours, apparently from shock, although no special reason for shock existed. These cases were as follows:

CASE I. *Tubercular tumor of cerebellum* (V. Horsley, *British Medical Journal*, April 23, 1887, i. p. 865).—Male, aged eighteen, had suffered from progressive symptoms; headache, vomiting, optic neuritis, increasing weakness of all limbs, especially the left arm and leg, and epileptoid attacks with turning of head and eyes to the right; mental state good. He had been in bed a year. Diagnosis, by Dr. Bastian, of tumor involving the right lobe of the cerebellum. A tubercular tumor seven drachms in weight was removed from the right lobe, but the patient died nineteen hours after operation.

CASE II. *Tubercle of cerebellum* (Bennett May, *Lancet*, April 16, 1887, i. p. 768).—Male, aged seven, suffered in April, 1886, from headache, chiefly frontal, vomiting; then gradual failure of sight occurred, and in July he was nearly blind. In July paralysis of the right sixth nerve was found and eyes were turned to the left. Optic neuritis was found in both eyes. Gait was staggering, chiefly backward and to the left. Mind was clear. In August, headache and vomiting were severe, he could not stand, and head was retracted. In October, he was blind; nystagmus was noticed; there was emaciation; and knee-jerk was lost on right side.

He was operated on by Dr. May: the cerebellum was exposed on the right side of the median line, and appeared healthy but bulged, and was felt to be hard at one spot. After incision a tumor was felt one inch below the surface. This was dug out with the handle of a spoon. It was larger than a pigeon's egg, hard on the surface, caseating at its centre. Hemorrhage was slight; but the child died of shock a few hours afterward.

CASE III. *Glioma of cerebellum; operation* (C. W. Suckling, *Lancet*, October 1, 1887, ii. p. 656).—Female, aged twelve, complained of headache and vomiting for one and a half years, then for nine months of weakness in the right arm and leg, and then for three months of severe headache in forehead above the right eye. For last month had noticed an inability to move the eyes outward to either side and l. > r. pupil, and gradual onset of double vision and blindness. From the first there

[1] Archives of Pædiatrics, vo . v. p. 278.

had been tremor in right arm on exertion. Vertigo had been present for some time, and staggering with a tendency to fall forward.

On admission to hospital, March 28, 1887, weakness of right arm and leg, and of left face, deviation of tongue to right; optic neuritis, nystagmus on any motion of eyes, loss of conjugate motion of eyes to right, and great impairment of the left. Diminution of knee-jerk, greater on right side, great staggering to left side; headache, vomiting, and vertigo were found.

The occipital bone was trephined over the left side, and the cerebellum exposed. The brain bulged out, and its tissue appeared darker and softer than normal. A part of the cerebellar substance was cut away, and the wound was dressed. The patient collapsed and died in forty-eight hours. The autopsy showed that the glioma had occupied the entire left lobe of the cerebellum and had invaded the middle lobe also.

In case no tumor is seen on the exposed surface of the cerebellum, what can be done? It is impossible to obtain access to the upper and anterior surfaces of the cerebellum from the posterior surface by pressing the organ to one side, for it is situated in a small cavity, and pressure downward causes dangerous compression of the vital nuclei of the medulla, while lifting it upward endangers the pneumogastric nerves. The only method of proceeding is exploratory incision. This was practised by May and revealed the tumor an inch beneath the cortex. He found the tumor encapsulated, and he removed it with ease, but the boy died in collapse.

The question will arise, How deeply can the cerebellum be incised? No facts are at hand to enable us to answer. It must be remembered, however, that in physiological experiments much of the cerebellar hemispheres may be removed without danger so long as the middle lobe and dentate nuclei of the hemispheres be not encroached upon. It remains to be seen whether the removal of a tumor of the middle lobe of the cerebellum, which has produced staggering gait, can be followed by recovery; but judging from physiological experiments it seems improbable.

The conclusion, therefore, regarding tumors of the cerebellum is that in about one-third of the cases the surgeon can reach the tumor; that the operation is essentially exploratory; and that it is much more dangerous to life than operations upon the cerebrum; and that no recoveries have as yet been recorded.

Multiple tumors form the next class in the table, and these must be at once dismissed as outside the field of operation at the present time. It may be remarked in passing that where numerous local symptoms are present in a case, which cannot be explained by a single lesion, the diagnosis of multiple tumor is justifiable.

The remaining classes are tumors of the cortex and tumors of the centrum ovale, fifty-six in number. Both these classes of tumors can be reached by the surgeon. There are no especial indications for their detection or removal in children as distinguished from adults.

The entire subject of diagnosis and removal of cortical and subcortical tumors has been so fully discussed recently, by Seguin and Weir, and by Keen in the *American Journal of the Medical Sciences*, that nothing remains to be said upon this point. It may be of interest, however, to consider these cases critically and to ask three questions regarding each, viz.: Could the diagnosis of the location have been made? If so, could the tumor have been reached? If so, was it of a nature to allow of removal?

In order to determine these points I have abstracted and tabulated forty of these cases, the remainder being of a character, both clinically and pathologically, to baffle both diagnosis and surgical treatment. Of these forty, there were thirteen in which a diagnosis of the exact position of the tumor could have been made during life, and an operation properly conducted would have resulted in the removal of the tumor. All of these cases[1] were tumors of the central convolutions, giving rise to local spasms followed by paresis. The starting-point of the spasm, its order of extension, and its limitation; the character of the paresis, its situation of greatest intensity or longest duration, when temporary, and its order of extension, were the symptoms in each of these cases which should have enabled the physician to determine the seat of the tumor. In none of them could the surgeon have been misled by following these signs of localization, and in all but two the operation would have been successful, as the tumors could have been reached and removed. In two, however, the tumor was gliomatous, and infiltrated the brain tissue too extensively to admit of complete excision.

In six cases among the forty a more careful examination of the case would have enabled a localization to be reached. Then in two cases of the central area the character of the spasms, and the order of extent of the paralysis were not recorded. And in three cases of the occipital region no test of the visual field was made, and hence hemianopsia, a very important localizing symptom, probably present, was not noticed. In five of these six cases[2] had the diagnosis been made, an operation might have been successful. In the other case[3] it would have failed, as there were several tumors.

In twenty-one of the forty cases the diagnosis of the seat of the disease was absolutely impossible, and hence no question of surgical interference could have arisen. It is true that in view of the post-mortem findings many of these tumors might have been removed successfully by operation had a diagnosis been reached.

[1] Cases 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, and 31.
[2] Cases 2, 18, 36, 37, and 38. [3] Case 23.

Two cases of tumors within the brain have been added to the collection,[1] one in the optic thalamus, the other in one lateral ventricle, in order to demonstrate how both diagnosis and operation might fail. In both of these cases the symptoms might easily have led to a diagnosis of cortical tumors in the motor area, but had an operation been undertaken, no tumor would have been found. Such cases should serve as a warning. They teach that under the most careful examination diagnosis is never absolutely accurate, and that many operations must necessarily be exploratory. This latter fact, however, is familiar to surgeons, and need not prevent the progress of cerebral surgery.

To sum up the results of this analysis of forty cases, we may say that in nineteen an operation was indicated, and in sixteen it would have been successful.

In the collection of cases of subcortical tumor there remain sixteen not tabulated, because in all of these the diagnosis during life would have been impossible, and an operation would not have been feasible. These then must be added to the unfavorable cases. The result then is that sixteen cases out of fifty-six could have been successfully treated by excision.

Out of 300 cases then of brain tumor in children, 19 cases only warranted an attempt at surgical interference, and of these only 16 would have been successful.

When the character of these 16 tumors is studied, it is found that 3 were gliomata, 1 was an echinococcus cyst, and 10 were tubercular tumors, the others being undetermined. If it is thought unjustifiable to operate on tubercular tumors, there remain but 6 out of 300 tumors fit for operation.

It may be remembered that in a review of 100 tumors in the museum of Guy's Hospital, Dr. Hale White found 10 which might have been removed safely. His percentage, ten per cent., is much larger than my percentage—five per cent. including tubercular, and two per cent. excluding such tumors.

This conclusion appears to be very unfavorable to surgical interference in brain tumors in children. It is to be remembered, however, that in many cases the patients were only observed in a late stage of the tumor, when it had grown to such a size that early local symptoms were obscured, as they are likely to be, by later symptoms. And it is also to be remembered that at present the observation of nervous symptoms is more careful and accurate than in former years.

It is not too much to hope that the records of the next twenty years may show a much greater per cent. of tumors diagnosticated and successfully treated. But at the present day when the tendency is, perhaps, setting toward cerebral surgery, a conservative view, and a wholesome caution may be fostered by a study of the past, such as the present paper has given.

[1] Cases *a* and *b*.

A NOTE ON THE USE OF THE BIDET IN SURGERY.

BY J. WILLIAM WHITE, M.D.,
DEMONSTRATOR OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA, ASSISTANT SURGEON TO THE UNIVERSITY HOSPITAL.

I DESIRE to call the attention of the profession to a method of treatment which, although not altogether new, is yet not appreciated as, in my judgment, it should be. I refer to a moderately forcible stream of water of varying temperature in the treatment of a number of affections of the rectum, anus, and genito-urinary apparatus. The atonic and astringent effect of such a stream of water upon any living tissue is, of course, a well-understood[1] fact, and has been employed in the arrest of hemorrhage, in the treatment of inflammation, and in various other conditions. But it has only been in exceptional cases, and usually by the aid of more or less troublesome apparatus that it has been used in the class of cases to which I now refer.

The bidet, as I have now for a few years prescribed it, should be of the variety which can be attached to the water-closet seat habitually used by the patient. It should have a nozzle capable of throwing a stream of about the calibre of an ordinary lead pencil or a little less. The head of water should be sufficient to make it impinge upon the parts exposed to it with enough force to excite there a little sensation of smarting and tingling. That degree of force will, for example, be sufficient to enable the patient to take an enema, or, if a female, to take a vaginal injection. The bidet pipe should be movable by means of a handle, so that the stream can be directed against any portion of the external genitals, the perineum, the anus, or the surrounding parts. It should also have connection with the hot and cold water supply of the house, so that the water may be used of any temperature which the physician may prescribe, or which the sensations of the patient may make desirable. Stopcocks should regulate the size and force of the stream, and should be so placed as to be easily reached by the hand of the individual sitting upon the water-closet seat. Such an apparatus can be put in place by an experienced plumber, in any ordinary water-closet, at an expense of from fifteen to twenty dollars; and, in this city at least, the usual head of water obtainable even in third-story rooms is quite sufficient for all therapeutic purposes.

The cases in which it may be desirable to use this

[1] Agnew (Surgery, vol. i. p. 445): "There is something peculiar in the action of a fine stream of water; it produces a much more energetic contraction of muscular fibre than that caused by bathing or sponging."

method of treatment may be divided into two classes: first, those affecting the lower end of the bowel and its outlet; second, those involving the genito-urinary system. Among the first the most important are hemorrhoids, internal and external, prolapsus ani, and slight cases of prolapsus recti; pruritus ani and eczema of the margin of the anus should also be included in this group of cases in which it has now for some time been my habit to prescribe the systematic employment, twice daily, of the bidet, once immediately after the daily stool, and for the second time, by preference, just before going to bed. As a rule, in all but the mid-winter months, the ordinary temperature of Schuylkill water is that to be preferred, although I am largely governed by the feelings of the patient in this respect. An enema should be taken at each of these times, the lower portion of the rectum being thus thoroughly washed out at least twice daily, after which the stream of water is allowed to play upon the affected region for a period of from five to fifteen minutes. The ordinary and useful effect of cool sponging or washing immediately after stool in cases of hemorrhoids is by this means enormously increased; internal hemorrhoids will, under this treatment, in many cases almost entirely disappear, unless they are exceedingly large and have been frequently inflamed or strangulated and badly neglected; external hemorrhoids, even when fleshy, will shrivel and become scarcely noticeable.

I could detail a number of cases of this character taken from my practice of the last two years. In some instances in which I had been habitually called in, at intervals of a few months, in the cases of old people the result has been practically their disappearance from my list of patients; and they speak in the warmest manner of the great comfort which they have derived from this simple method of treatment.

Perhaps nothing is more distressing among minor afflictions than the trouble described as pruritus ani, and variously attributed to liver disease, constipation, gastric troubles, latent gout, uterine disease, parasites, neuroses, and a number of other causes, varying from the eating of shell-fish, or excessive smoking, to alleged hereditary predisposition. There are very few practitioners of any experience who have not discovered how difficult it is, in any particular case of pruritus, to assign distinctly the annoying symptoms to any one of these causes. Often the whole list may be carefully gone through and eliminated, or the proper remedies may be applied successively, as different theories are adopted, without the slightest benefit resulting. Ointments, lotions, *ordinary* cool bathing will be tried in great variety, but without avail; and such patients will often go from one physician to another, or will fall into the hands of quacks while seeking relief. My list of cases of this character which I have now treated by means of the "bidet" comprises eight, one of which it may be worth while to mention in a little more detail.

Mr. —, aged thirty-five, a lawyer by profession, of somewhat sedentary habits, but in good general health, applied to me, in January, 1887, on account of a long-continued pruritus, which, he said, was simply making life miserable to him; he was a man of great intelligence, who had secured the best medical advice in this and other cities, and who gave a graphic description of his sufferings. Whenever, after sitting for a time at his desk, the buttocks and perineum became warm, itching would begin, and would presently become intolerable, so that he would be absolutely obliged to rise, and, if he was not alone, to make some excuse to leave the room, in order to obtain ease, temporarily, by scratching. At night, after he became warm in bed, his trouble—as is usually the case with such patients—became much worse, so that often a large part of the night was rendered sleepless, and the sleep which he did procure was broken and disturbed. He frequently awakened with a start, finding himself digging at the parts with his nails. He was losing flesh rapidly, was becoming unable to attend to the ordinary duties of his profession, was annoyed and mortified, even when in court trying cases, by the almost irresistible impulse which he felt to apply friction to the irritated region, and naturally was intensely depressed and despondent.

He brought me copies of the prescriptions which had from time to time been given him, and which covered almost the entire ground of the above mentioned list of possible causes. I had—fortunately for him and for myself—just been successful in a case of much less severity, in procuring relief and apparent cure by means of the bidet; I promptly prescribed it for him, instructing him, as it was January, to use the water at a temperature a little short of tepid, and prescribed, in addition, only an ordinary oxide of zinc ointment, for the relief of a little eczematous irritation produced by his scratching. His improvement was immediate and marked, and at the end of two weeks he said that he had merely a trace of his former trouble, which soon after entirely disappeared, and he has ever since remained free, although he has been compelled to take long trips away from home, and thus obliged to intermit his treatment.

Some of my other cases are of equally striking character. They have nearly all resulted in cure; requiring to attain that end simply different lengths of time of the application of the douche, with variations in the temperature of the water, and occasionally the use of some emollient salve. I have been particularly struck by the fact that these cases include among their supposed causes widely distinct conditions, and the uniformity with which they have yielded to this simple treatment has led me to regard with suspicion the orthodox etiology of the disease. In procidentia ani, and in slight cases of prolapsus recti, I have had

very satisfactory though, of course, less striking results. In a few instances the trouble almost entirely disappeared, and in all of them it was distinctly relieved. These cases require for their successful treatment a much longer application of the douche, and the water should, in my judgment, be at one or the other extremes of temperature, either quite cool, or as hot as can comfortably be borne.

I am quite aware that the use of cold water in these affections is not in the least a novel plan of treatment; but the method under consideration combines the effects of temperature with a sufficient force of the stream, and admits of the prolonged application of the remedy without effort on the part of the patient, who is in the most suitable position for this treatment, practical points which induced me to make this mention of my results in rectal and anal cases.

Agnew says of pruritus, that among the local remedies frequent ablutions with cold water should be mentioned; and of prolapsus ani et recti, that "in all cases where remedies have proved unavailing, or where patients have declined an operation, much good may be done by douching the parts with cold water and applying an oiled compress;" and Allingham says of the same class of cases, that "the frequent and bountiful application of cold water is to be most strongly recommended;" but few authors, so far as I know, have especially alluded to the method of application by means of a bidet.

My second class of cases includes, chiefly, certain prostatic troubles, varicocele, atonic impotence in the male, and pruritus of the vulva or vaginitis in the female. In cases of varicocele, although I have not succeeded in effecting a cure in any instance by this method, I have certainly seen advancing enlargements of the spermatic veins become stationary; long, relaxed, and pendulous scrotums become firm and much smaller; and the mental condition of the patient—which is so important an element in many of these cases—share in the improvement. In chronic prostatitis, a most intractable and distressing ailment in many instances, it has come to be a part of my routine treatment to order the use of cold perineal douches by means of the bidet, associated with frequent cool enemata given in the same manner; and I believe to-day that if I had to discard all therapeutic measures but one in these cases, I would retain this one. In a certain number of cases of impotence associated with general muscular weakness, loss of tone, lack of general strength and vitality, accompanied by imperfect or rapidly subsiding erections, I have found that the cold douche applied with some force and for considerable lengths of time to the perineum and testicles has been productive of marked benefit.

In two cases of pruritus vulvæ my results have been good, though less striking than in the similar disease affecting the region of the anus. In vaginitis, where the woman has sufficient intelligence to learn how to take an injection by means of the bidet, it offers an admirable method of cleansing the vagina, of carrying away thoroughly all accumulated secretions, of reducing heat and swelling, and at the same time of avoiding the frequent introduction into the inflamed canal of a foreign body in the shape of the nozzle of a syringe. My opportunities for observation in this class of cases have been limited, owing to the disinclination of these patients to procure the bidet, and owing to their irregular habits of life and their frequent changes of residence; but I have seen enough of its good results to make me feel confident that it is a valuable addition to our therapeutic agencies.

After all, in every one of the cases which I have mentioned, its use is simply the application of the most elementary and common-sense principles to everyday practice, but I am satisfied that this particular method of applying these principles has not received the attention which it merits.

A SUCCESSFUL CASE OF VAGINAL HYSTERECTOMY.

BY RANDOLPH WINSLOW, M.A., M.D.,
PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF BALTIMORE; LECTURER ON CLINICAL SURGERY IN THE UNIVERSITY OF MARYLAND.

AMONGST the moot points which are occupying the attention of the medical profession at this time, none, perhaps, is of more practical importance and interest than the subject of the treatment of cancer of the uterus. Everyone is familiar with this horrible disease, with its fetid discharge, frequent hemorrhages, disturbances of the functions of the bladder and rectum, and pain. The course of such a malady is too well known. The patient becomes disgusting to herself and to her friends alike, and the end is looked forward to as a blessed relief.

All surgeons agree that something ought to be done to mitigate the sufferings of those who are stricken with this fell disorder, and, if possible to effect a radical cure; but it is a disputed question whether a partial operation, one which aims to remove a portion of the uterus only, should be performed, or the complete extirpation of the organ. In favor of the partial operation is the very much smaller mortality of the procedure itself; against it is the fact that a cure is seldom effected, the fatal termination being usually only averted for a time. Again, a partial operation would be of no avail if the disease had either originated within the cavity of the uterus or had extended upward from the cervix. In favor of complete hysterectomy is the fact that the whole disease is much more likely to

be eradicated, and a permanent cure to be effected; whilst opposed to this advantage is a higher rate of mortality.

Such then is the question as it confronts us at this time. The weight of authority in Germany is in favor of complete extirpation, whilst in this country the conservative operation has, until recently, received universal professional sanction. It does seem to me, however, unreasonable that an exception should be made in the case of the uterus, to the accepted law, that the whole of an organ should be removed for malignant disease when such can be accomplished with a reasonable rate of mortality. Whilst opportunity does not serve me to go into an extensive consideration of the mortality of vaginal hysterectomy, it may be stated that the death-rate is diminishing each year, and has fallen from 29 or 30 per cent. to about 10 per cent., and will, probably, still further decrease as surgeons acquire a greater familiarity with the technique of the operation. Dr. August Martin, of Berlin, collected, in 1887, 311 cases with a fatality of 47 or 15.1 per cent., and this rate has still further decreased to between 10 and 11 per cent. Dr. Martin likewise states that 70 per cent. of permanent cures have been obtained by vaginal hysterectomy.

It is a duty which one owes to the profession to place upon record his cases, whether successful or otherwise, and in obedience to that mandate I publish the following case of total vaginal hysterectomy:

Mrs. S., widow, forty-two years of age, two children, now grown, was a fine-looking and healthy woman previous to the past eight months. For some months she has been having a foul discharge from the vagina, with metrorrhagia, but not much pain. She came under my observation in July, 1888, at which time she was anæmic and weak, with no appetite, a feeble, quick and thready pulse, constant cough, and unable to sleep. A vaginal examination revealed a large proliferating epithelioma of the cervix uteri, which nearly filled the vagina, but did not involve it. On September 6, 1888, the cervix was removed flush with the vaginal junction, with the curette and scissors, at which point the tissues were hard and apparently healthy; and the face of the stump was thoroughly rubbed with nitrate of silver. There was free hemorrhage until firm tissue was reached, when it ceased. The vagina was irrigated with hot water, which arrested all oozing. A pad of styptic cotton was placed against the stump, and the vagina partially filled with iodoform gauze. The anæsthesia, ether, was very well maintained, and her feeble pulse improved during the operation. The patient did exceedingly well, gained appetite and flesh, improved enormously in appearance, and in a few weeks was down-stairs and out.

After six or seven weeks, backache and shooting pains returned, necessitating the use of anodynes, and there was a tendency to bleeding; and upon examination the cervical stump was seen to be proliferating again. Total extirpation of the uterus was suggested as the only remedy likely to be of any avail, and the gravity of the operation was clearly explained. Without any solicitation on my part and against the urgent entreaties of her friends, the patient decided to submit to hysterectomy, remarking that she would rather die under the operation than live six months suffering as she did. At this juncture I availed myself of the opinion of my friend, Prof. Ashby, who agreed that the case was one suitable for extirpation. During the two weeks in which the patient was considering the advisability of the operation, the disease made steady progress, pain became constant, and her strength began to fail. November 13, 1888, was the day appointed for the operation, at which I was assisted by Prof. Jay, and Drs. C. Winslow, J. R. Winslow, and F. M. Latham. Ether narcosis. The bowels had been moved, and the bladder catheterized previous to operation. After cutting the vulvar hair, and washing and disinfecting the external genitals, the vagina was thoroughly irrigated with bichloride solution 1 : 2000

Operation.—Incised posterior vaginal wall with long scissors, and after cutting through the mucous membrane I gradually dissected up the tissues with the finger until the peritoneum was reached at a great distance from the vagina. The cervix was very friable and the vulsellum forceps kept tearing out, causing considerable hemorrhage, which obscured the field of operation. The anterior wall was now incised and after a long dissection the peritoneum was reached and opened. The lateral vaginal walls were divided around the cervix, and the fingers passed around the left broad ligament, and a stout double ligature carried from the anterior to the posterior opening, and firmly tied. As an additional security the ligament was clamped with two catch forceps, which were left *in situ*. The uterus was now completely severed from all its attachments on the left side, and brought down into the vulvar opening. The left ovary came into view and was removed; the right ovary was not seen. The right broad ligament was ligated and clamped in the same way as the left, and the uterus removed. Some bleeding points were clamped, and six pairs of forceps were left hanging out of the vagina. The vagina and pelvis were irrigated with hot weak bichloride solution, and then with plain hot water, until all oozing ceased and the water returned clear. It was impossible to prevent blood from getting into the pelvic cavity. The intestines came into sight, but did not interfere with the operation.

The operation was much more difficult than I had expected, owing to the size of the uterus, and the elongation of the supra-vaginal portion of the cervix, and the hemorrhage from the friable growth. I attempted to sew the mucous membrane and peritoneum together after the method of Martin, but could not accomplish it, and relied upon forceps instead. The vagina was packed with iodoform gauze around the forceps, and the patient put to bed under blankets and with hot bags placed upon her.

At the close of the operation the pulse was very

rapid and feeble, and shock was well marked. Upon recovering consciousness much pain was complained of, necessitating the administration of morphia. During the operation some ether got into the left eye, and this caused much discomfort, which was relieved by the instillation of a four per cent. solution of cocaine. The evening of the operation and the next morning the temperature remained normal, but on the evening of the second day it reached 101⅖°, and the next morning 101⅘°, dropping to 100⅗° on the evening of the third day. This transient rise of temperature was probably due to a localized peritonitis, as was evidenced by some abdominal tenderness and irritability of the bladder. The catch forceps were in about forty hours, and no hemorrhage followed their detachment and removal.

After the third day the temperature remained most of the time about 99½°, reaching normal on the tenth day. At first the urine was drawn, but once the patient was obliged to void her urine spontaneously, and afterward she continued to do so naturally. The pulse was quick and feeble prior to the operation, and has continued rather rapid since, ranging from about 120 during the first forty-eight hours down to 86 on the ninth day. The bladder was somewhat irritable at first, but soon became regular in its functions. Probably the most distressing feature of the case has been the formation of hardened feces, which were passed with difficulty and much pain. This constipation was probably due to the milk diet to which she was restricted. Another complication which was very much to be deplored was the formation of large sloughs from the hypodermatic injection of whiskey during the operation. The deep layer of iodoform gauze was not removed for a week, by which time it had become saturated and offensive. The wound by this time was reduced to a slit and was granulating nicely. The intestines were not to be seen. The dressings were removed at intervals of a few days, and the vagina irrigated. The discharge has been very slight from the beginning.

The patient sat up on the side of the bed for the first time on the fifteenth day. At this time a most unfortunate complication developed in the occurrence of erysipelas and cellulitis of the arm at the seat of an injection of whiskey. The arm became hot and painful, with much swelling, the temperature gradually increasing for four days until it reached 103°, and pulse 120. An abscess of considerable size was now discovered, and upon puncturing it a free discharge of pus took place with immediate relief of pain and a fall of temperature to 98⅘° by the next morning. The patient is still weak, more from the cellulitis than from the operation, but is able to sit up and to go from room to room, and I hope will soon be out of the house.[1]

This operation was delayed too long, and should have been performed when the disease was first discovered, but the physical condition of the patient did not justify such a severe operation at that time; and, moreover, the consent of the patient and her friends to the performance of hysterectomy was withheld.

1 MOUNT ROYAL TERRACE, BALTIMORE, MD.,
December 20, 1888.

[1] Since this paper was written the patient has been out riding.

A CASE OF HODGKIN'S DISEASE ACCOMPANIED WITH A POSSIBLE RESULTING PARAPLEGIA.

REPORTED BY LEWIS H. ADLER, JR., M.D.,
RESIDENT PHYSICIAN, UNIVERSITY HOSPITAL, PHILADELPHIA.

IN an article in Pepper's *System of Medicine*, Dr. Wm. Osler describes this disease as being characterized by progressive hyperplasia of the lymph glands, sometimes also of the spleen, with anæmia, and the development of secondary lymphatic growths in various parts of the body.

It has various synonyms; those deserving particular mention are pseudo-leukæmia, general lympho-adenoma, lympho-sarcoma, adenoid disease, and malignant lymphoma. It is also called Hodgkin's disease, after the physician who first studied and called the attention of the profession to it.

The case which I wish to describe is that of a married white woman, M. J. F., æt. twenty-six, a native of this State. She was admitted into the wards of the University Hospital August 31, 1888, under the care of Dr. H. C. Wood.

Dr. Joseph Leidy, Jr., was at that time Dr. Wood's resident, and from notes taken by him I glean the following as the patient's condition upon admission: She was unable to use her lower extremities; the muscles of the legs were wasted and flaccid; responded well to electricity (faradic current). Reflexes were good, possibly increased. Sensation unimpaired. There was a large bed-sore over the sacrum, and another commencing over the right trochanter major. Pressure over the spinal column elicited pain; particularly from the fourth to the sixth dorsal vertebræ. In the lumbar region a marked lateral curvature to the right was noticed.

Her family history, which I obtained, was good. No scrofula or specific trouble evident. Was always healthy up to time of marriage, which occurred when she was twenty-three years old. Said that "she had never taken a drop of medicine up to that date." Her husband and his family were all healthy, so far as I was able to ascertain. She menstruated at thirteen; was always regular except when pregnant. Since marriage has had two miscarriages; one at three months, the other one month sooner. Assigned as a reason for this trouble, heavy lifting.

Four months before admittance to hospital she was delivered of a healthy child at full term. Shortly after this pregnancy, the cervical glands only, and of the left side, became swollen and hard, but not painful, with no tendency at any time toward suppuration. She never was in perfect health after her first miscarriage, which happened six months after marriage. It left her not only very weak but exceedingly nervous. Under a physician's care she

improved greatly. She again became pregnant, and again miscarried, this time at the end of two months.

Her third pregnancy, which ended four months before coming to the hospital, resulted, as previously stated, in the birth of a fine, healthy, full-term, male child. When three months gone she felt as though she was about to abort again, but was put to bed and carefully nursed; which undoubtedly prevented a return of former occurrences.

Three weeks after this confinement she was taken suddenly with sharp pains in the dorsal region, which extended up the spinal column. A week later she noticed that her strength was deserting her, shown by becoming tired and exhausted without apparent cause. This condition of affairs grew rapidly worse, and in a few days she was unable to stand upon her feet. Her legs were both numb and painful, and power of moving same was soon entirely lost. At the end of nine weeks she had no control over contents of either bladder or bowels.

On September 15, 1888, I assumed Dr. Leidy's place as Dr. Wood's resident. A careful examination of the case at that time revealed the following condition of affairs: The patient was very anæmic looking, and had lost, as she stated, considerable flesh. Her tongue was pale, furred, and heavily coated; edges clean. There was a marked inequality of pupils of eyes. Also an otorrhœa of the left side. Upon the same side of neck there was an irregular mass of glands, hard to the touch, but not tender, about the size of an ordinary child's head. The right side had a few enlarged glands; in all, not larger than a pigeon's egg. The skin was free and movable over this region. In the left axilla there were several large lumps; none in the right side. The left arm was somewhat œdematous, possibly from pressure upon the axillary veins. The inguinal glands were slightly enlarged, but equally so upon both sides. No enlarged glands or tumors could be felt within the abdominal cavity. The spleen and liver were both normal in size. There was some œdema of the feet and ankles, which was attributed to the sluggish circulation. Examination of the heart revealed a low-pitched, soft systolic murmur over its base, which was undoubtedly anæmic in origin. The murmur was also accompanied by a venous hum in the neck. The pulse though rapid, was weak, varying from 90 to 130 per minute. The lungs were healthy, except over bases, where they were somewhat dull upon percussion, and respiratory sounds were feeble. There was fever present of an irregular, hectic type, which, during the last two weeks of the patient's stay in the house became continuous in character, with evening exacerbations.

From just above the umbilicus there was found to be complete loss of motion and sensation of all the parts of the body below. And, as in the case described by Dr. James H. Hutchinson (*Trans. of the College of Physicians of Philadelphia*, series 3, vol. i.), the line of separation between the parts where sensation was preserved and where it was lost was sharply defined by dragging a pin along the surface of the abdomen. Likewise there was a sense of constriction, as of a band, at the point separating the paralyzed from the sensitive portion of the body.

Unlike Dr. Hutchinson's case, there was in this patient a tendency to contraction, and spasmodic twitching of the muscles. They were not, however, very marked. The knee-jerk upon the right side was below normal; that upon the left side was about right. She complained constantly of headache and burning pain in the lower portion of the body, especially in the feet and toes—which were relieved by large doses of morphia.

The decubitus of patient was a curious one. She lay constantly with her knees bent and her legs drawn up. What significance to give this, except there be some meningeal trouble could not be determined.

The urine was examined and found to contain an excess of phosphates and urates, but no albumin. Specific gravity of 1025, and reaction acid. Examination of the blood, made for me by one of my colleagues in the hospital, Dr. Alfred C. Wood, showed the count of red blood-corpuscles to vary at different times from 3,500,000 to 2,500,000, the last estimate being the one made just before the patient left the house; she having been told that her case was hopeless, and her husband wishing her home.

No treatment proved of any use. To procure sleep and relieve pain, opiates constantly were resorted to, but no remedy did any good so far as the general disease was concerned.

She left the hospital November 23d, and died six days afterward. No post-mortem was allowed. It is more than likely that the paraplegia in this case resulted from a lymphoid tumor or tumors pressing upon the spinal cord, as in the case already alluded to of Dr. Hutchinson's, and in that of a similar case seen by Dr. William Osler, at Montreal.

The cause of the disease is a matter of conjecture, as it is in almost every other reported case. The otorrhœa, which Virchow believes generally precedes the disease when it starts in the neck, in this case followed it, showing that it was a sequence and not a cause of the trouble.

The curvature of the spine, previously mentioned, which existed in this case, was unquestionably due to disease of the vertebræ, a result of the general affection—for we know that in this trouble the bones are often found diseased.

41 NORTH TWELFTH STREET.

MEDICAL PROGRESS.

Naphthalin in Intestinal Catarrh.—DR. HOLSTI (whose work is mentioned in the *Nordiskt Mediciniskt Archiv*) has tried naphthalin for intestinal catarrh with foul-smelling secretions. The dose for adults was eight grains four or five times a day, but it should not be given for a longer time than from ten to fourteen days. For children of from one to two years old, he gave two to three grains four times a day. In all cases, both in adults and children, there was an improvement at the com-

mencement. Sometimes there was a relapse, notwithstanding the renewed use of the naphthalin. Dr. Holsti specially recommends it in severe chronic enteritis where other drugs have been employed without effect. He found no injurious effects from its use in adults; in one case—that of a child a year and a half old—the use of naphthalin in doses of two grains four times a day was followed by great anæmia, although the intestinal catarrh was much benefited. Hence Dr. Holsti advises care in the administration of naphthalin to children, especially when given for a lengthened period. He found it fail in two cases.—*Lancet*, December 22, 1888.

The Virulence of Tuberculous Sputum.—DR. DE TOMA, of Lesa (*Annali univ. di med. e chir.*, March, 1888), made a number of experiments to determine the virulence of tuberculous sputum, and obtained the following results:

1st. Tuberculous sputum excluded from the air and kept at a constant temperature of 68° F., retained its virulence up to the ninth or tenth day; and the tubercle bacillus, under the same conditions, up to the fourteenth or fifteenth day.

2d. Tuberculous sputum which had been exposed to the air retained its virulence from two to nine days, while the tubercle bacillus lived from six to fourteen days.

3d. Microbes from the mouth and nasal secretion which had found their way accidentally into the sputum, did not, as a rule, when inoculated, hinder the action of the tubercle bacillus, except when mixed with a large quantity of phlegm, in which case they developed more rapidly than the tubercle bacillus, and became on their own part an infectious medium.

4th. Decomposition destroyed the virulence of the sputum within three to nine days, and killed the tubercle bacillus within six to fourteen days.—*Centralbl. f. klin. med.*, Dec. 15, 1888.

Intermittent Hydronephrosis.—Under this heading, DR. LEOPOLD LANDAU, Professor of Gynecology at the University of Berlin, publishes four cases of a disease but little known (*Berlin. klinische Wochenschrift*, Nos. 47 and 48). The definition is limited to those cases in which the pelvis of the kidney varies, from time to time, between distention and emptiness, in the absence of other disease which might exhibit this symptom—for example, passage of renal calculus, malignant disease of the bladder, etc.

The symptoms described are more or less severe pain in the side, lasting from hours to days, and recurring at intervals, associated with nausea and vomiting, general gastric disturbance, cardialgia, etc. The flow of urine is scanty during, and profuse after the attack. The existence of a swelling which sometimes disappears may be known to the patient, or a hard, non-fluctuating tumor, separated from the liver by resonance, may be made out on palpation. As, after a time, the urinary elements of the fluid are reabsorbed, they may not be found by exploratory puncture, but the acidity of the fluid would be enough to fix the diagnosis. Dr. Landau maintains that spasm of the ureter alone would not be enough to account for the largely distended renal sac, and points out how the ureter may be occluded by torsion or tension, when the kidney is abnormally movable, or when pulled upon by prolapsed genitalia with cystocele, or when the ureter is inserted at a more acute angle. Thus, the pelvis is distended until the pressure is sufficient to overcome the obstruction. With each attack it loses elasticity, and dilates gradually into a large sac, which drags the kidney downward, thus aggravating the mechanical disadvantage of the contained fluid, for the ureter is inserted then at the top of the sac instead of at the bottom, and is also in greater measure pulled upon, twisted, or "kinked." Finally, neither the recumbent position nor manipulation may be able to effect evacuation, and the cyst becomes permanent and the kidney atrophies. Of the cases, one went on, after repeated attacks, to pyelitis, and is interesting from the fistulous opening then made in the side having persisted discharging clear urine for eight years, with but slight inconvenience to the patient. Two others showed a cessation of the symptoms during pregnancy—when the kidney was kept in position by the gravid uterus. One of them was relieved, on the recurrence of the attacks after confinement, by external pressure by means of an abdominal bandage. All the cases were of women from thirty to sixty years of age.—*British Medical Journal*, December 15, 1888.

Benzoate of Sodium in Diphtheria.—DR. BRANDEL, having treated a large number of cases of diphtheria with benzoate of sodium, reports his *modus operandi* as follows:

Internally. Administer every two hours, morning and night, a tablespoonful of the following:

℞.—Benzoate of sodium . . . ʒss–ʒjss.
Syrup of acaciæ . . . . ʒiij.—M.

Externally. Apply every hour, day and night, the following solution:

℞.—Benzoate of sodium . . . ʒiij.
Water . . . . . ʒv.—M.

Further: evaporate near the bed of the patient a mixture of phenic acid, eucalyptol, and oil of turpentine. The diet to consist of milk, the juice of meats, and cinchona or Malaga wine.

In itself, this treatment is not new, but its simplicity recommends it. Success is said to depend upon the purity of the benzoic acid used.—*Revue de Thérapeutique*, Dec. 13, 1888.

Determination of Albumin in Urine.—DR. SCHAUMAN, in *Zeitschrift für Analytische Chemie*, vol. xxvii. part 5, proposes a modification of the gravimetric method for the determination of albumin in urine. Instead of the ordinary paper filter, he uses a plug of cotton-wool freed from fatty matter, and pressed firmly into a glass tube drawn out to a narrow point. For this purpose a filter tube is adapted, as introduced by Allihn for the determination of sugar. This tube, with its cotton plug, is dried at 110°, and weighed. It is then fixed firmly by means of a cork, in a filter support, which is, in turn, connected with a filter pump. The albumin in a weighed quantity of urine is precipitated in a beaker by the addition of a small quantity of acetic acid, and heating for half an hour on the water bath. The clear supernatant liquid is first poured into the tube. The coagulum, which adheres rather firmly to the bottom of the beaker, is repeatedly washed with hot water, and the washings carefully

poured upon the cotton before the preciptated albumin is introduced. This is then washed with hot water, with the aid of a filter pump, until the liquid running out, no longer gives a chlorine reaction with silver nitrate. The tube is then closed at the wider end with a cork, perforated to admit a glass tube. It is then placed in a small rectangular drying box of sheet iron, provided on each of its two opposite sides with a circular aperture, into which the filter tube is inserted. The end having the perforated cork is connected with a calcium chloride tube and a washing bottle charged with sulphuric acid, whilst the drawn-out end is connected with an aspirator. For an hour a moderately rapid stream of dry air is drawn through the filter tube. The temperature in the drying box is gradually raised to 100°, and, after heating to this point for an hour, it is raised further to 110°, dried air being still drawn through in a moderately strong current. After heating for two hours at 110°, the tube is weighed and reweighed every half hour until the weight is constant.— *British. Med. Journ.*, December 22, 1888.

The Relative Power of Different Antiseptics.—DR. G. MARTENS describes in his work upon this subject the results obtained from the action of a large number of antiseptics upon pus-germs (staphylococcus pyogenes albus, aureus, citreus; streptococcus pyogenes). The experiments were made to determine the germ-destroying power, as well as the arrest-of-growth power of the various antiseptics; part of these proved to be germ-destroyers, while the action of others was either indifferent or negative.

In a solution of 1 : 10,000, iodine only was found efficacious in destroying pus-germs; iodoform was neither able to destroy the pus-germs, nor to hinder their growth; the same is true of iodide of potassium. Next to iodine, thymol was found to be the strongest antiseptic, destroying pus-germs in a solution of 1 : 5000 within one minute; the addition of a solution of 1 : 10,000 to agar-agar prevented the development of these cultures.

In a solution of 1 : 1000, the pus-germs were destroyed as follows: Within forty-five seconds by javelle water; within two minutes by nitrate of silver; within one minute by nitric acid; and only after the lapse of five minutes by muriatic acid. Sulphuric acid in the proportion of 1 : 100 within forty-five seconds. A sublimate solution, 1 : 1000, was destructive to the pus coccus in sixty minutes, while in a solution of 1 : 100 it acted instantaneously.

A solution of benzoic acid 1 : 500 acted within seven minutes; salicylic acid 1 : 300 acted within one to two minutes.

In solution of 1 : 100 chloride of iron acted within fifteen seconds; chlorinated lime within fifteen seconds; acidulated sulphate of potassium within thirty seconds. A five per cent. liquefied carbolic acid destroyed the pus-germs instantly; a three per cent. solution within fifteen seconds; while a one per cent. solution required from one to three minutes for operation. A one per cent. solution of permanganate of potassium only proved effective after the lapse of ten minutes. Chinoline, chloride of copper, resorcin, in a one per cent. solution, were slow in operating; acetate of aluminium, in a one per cent. and stronger solutions, requiring an entire day for action.

In dilutions of 2 : 100, acetic acid was destructive within ninety-five minutes; oil of turpentine, pure, immediately, while in dilutions of ten per cent., to three per cent. and one per cent., it proved less active.

In solutions of 5 : 100, chloride of zinc acted within forty-five seconds; a four per cent. solution of boracic acid required ten days, while borax was entirely inactive.

A ten per cent. solution of caustic potash destroyed the pus-germs within five minutes, while a fifteen per cent. solution proved effective within fifteen seconds. Nitrate of lead had no special antiseptic power; a ten per cent. acetate of copper solution required twenty-one hours; a chloride of calcium solution, twenty-eight hours; a citrate of iron solution, twenty-four hours; and antipyrin, ten days to destroy the pus-germs.

A fifty per cent. solution of cadmium sulphate destroyed the germs in one and a half minutes; lead acetate in fifteen hours, and acetate of sodium in ten days.

Fifty per cent. alcohol solutions proved effective in ten minutes; cold saturated solution of nitrate of bismuth was effective in one hour and forty minutes; limewater, in twenty hours; sal-ammoniac, in twenty-four hours; aqua ammoniæ, in six days; sulphite of ammonium, after twenty-four hours.

The following preparations proved ineffective: Iodide of potassium, bromide of potassium, nitrate of potassium, caustic potash, pearlash, chloride of sodium, sulphate of sodium, borax, hyposulphite of sodium, carbonate of ammonium, sulphate of zinc, oxide of copper, and others.—*Centralbl. für klin. med.*, Dec. 15, 1888.

Toxic Symptoms after the Subcutaneous Injection of Cocaine: Amyl Nitrite as an Antidote.—UNKOWSKY (*Vrach*, No. 4, 1888) has frequently noticed slowing of the pulse, dizziness, dyspnœa, paleness of the skin and mucous membranes, general weakness and, at times, unconsciousness after the subcutaneous injection of one to two syringefuls (15 to 30 minims) of a four per cent. solution of cocaine ($\frac{3}{5}$ to $1\frac{1}{2}$ gr.) for minor operations; these symptoms all usually disappeared within five or ten minutes. The author at first, thought that the manifestations were not dependent on the small amount of cocaine, but rather upon nervous excitement and the fear of operation. The following case, however, demonstrates the toxic influence of even relatively small doses of cocaine subcutaneously administered. Two syringefuls (30 minims) of a four per cent. solution were injected under the skin of the scrotum of a robust, fifty-six-year old man, with hydrocele. In a few minutes there were great restlessness, severe oppressive pain in the back, particularly in the lumbar region, relieved somewhat by friction of the back, then there was striking pallor of the countenance and the visible mucous membranes, dizziness, dryness of the mouth and throat, dyspnœa, pulse retarded and small; the patient complained that he could not see; everything appeared uniformly white to him; finally, there were general weakness and complete inability to move the limbs, as in chloroform narcosis. The pain in the back and the difficulty of breathing occurred in paroxysms, the attack, with the general collapse, at times threatening life.

During such attacks amyl nitrite was given by inhalation until the dyspnœa diminished and the pallor disappeared. An hour was thus spent. the patient inhaling about fifteen minims of amyl nitrite and receiving three syringefuls of ether by subcutaneous injection. Gradually the manifestations disappeared and the operation was proceeded with, complete insensibility to four per

cent. solutions of carbolic acid, to the passage of the needle, etc., existing and with complete inability to move the extremities. A half-hour later none of the symptoms remained. The author reports another case, in which one hour after the injection of a half syringeful (7½ minims) of a twenty per cent. solution (1½ gr. of cocaine) under the gum of the mouth, psychical disturbances occurred: and in still another, six hours after the injection of a syringeful of a four per cent. solution in the cheek, mild symptoms arose similar to those described.—*Therapeutische Monatshefte*, October, 1888.

β-Naphthol in Enteric Fever.—From a careful clinical study of the use of β-naphthol in typhoid fever, DR. J. MICHELL CLARKE, of London, draws the following conclusions:

1. That the production of intestinal antisepsis is a rational mode of treatment of enteric fever, and that β-naphthol is a safe and tolerably efficient agent for this end.

2. That by its use in the above cases the duration of the disease was shortened, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal was lessened.

3. That the tendency to the occurrence of splenic enlargement, albuminuria, and of secondary complications such as boils, abscesses, etc., of purulent infective origin, is diminished.

4. That complete convalescence is more speedily and satisfactorily attained: and that there is less risk of a propagation of the disease to others.

Finally, we must bear in mind that in some patients naphthol may excite so much gastric disturbance as to prevent its use.

β-naphthol was administered suspended in milk, and a small quantity of pure milk was taken after the dose. The doses must be administered frequently, in order to keep up a constant effect, and small doses have also the advantage of not giving rise to the pungent after-taste in the throat that naphthol is apt to produce. To adults it may be administered in gelatine capsules, or the following formula, which seems the most satisfactory after several trials, may be made use of:

℞.—β-naphthol	. . . . .	gr. xx.
Tr. aurantii	. . . . .	ʒij.
Syr. limonis	. . . .	℥ss.
Mucilaginis tragacanthi	. .	℥iij.
Aquæ	. . . . . ad	℥vj.

Dose, ʒj.

Taste, however, is practically abolished in most cases of enteric fever, and the patients to whom it was given in milk made no complaint on this score.

Out of seven cases, four—of whom two were boys of twelve years—took the drug in doses of three and a quarter grains every two hours during the whole course of the disease, until the temperature remained normal for five or six days; one boy, aged ten, took gr. iss instead of gr. iij doses.

Whilst giving naphthol it is also advisable to control the pyrexia that necessarily occurs in the course of enteric fever, and so prevent the damaging effects on the tissues and organs of the body of a long-continued high temperature; we should, therefore, together with naphthol administer an antipyretic, preferably perhaps antifebrin or phenacetin, whenever the temperature rises beyond a certain height, say, 102° F.—*The Practitioner*, December, 1888.

External Application of Chloral Hydrate in Night-sweats.—DR. NICOLAI (*Gazette Médicale*) has obtained very favorable results from the use of chloral hydrate in the night-sweats of phthisis. Every night before retiring the entire body of the patient was sponged with the following:

℞ – Chloral hydrate	. . .	ʒij.
Alcohol Water	. . . .	āā ℥iij.—M.

Should this not suffice, the patient's night-dress is saturated with this solution, then allowed to dry, and worn.

This mode of treatment also gave excellent results in the night-sweats of children the result of phthisis. Two or three of these spongings will generally suffice to check a sweating which has persisted for two or three weeks.—*Bull. Thérapeutique*, Dec. 13, 1888.

Ammonium Sulpho-ichthyolicum in Erysipelas.—DR. W. L. SCHADKEWITSCH (*Medizinskoje obosrenje*, 1888, No. 12) has found equal parts of ammonium sulpho-ichthyolicum and fat to be an excellent remedy in the treatment of erysipelas, in which disease it limited the pain and duration of the attack.—*Centralbl. f. Chirurgie*, Dec. 15, 1888.

Poisoning by Antifebrine.—A bookbinder, aged thirty-eight years, obtained thirty grains of antifebrine from a druggist in Berlin for a headache, and, after twenty-four hours, thirty grains more, each quantity to be taken at one dose. A quarter of an hour after taking the second dose, the patient experienced great depression, with cold sweats, vertigo, anxiety, and heavy palpitation of the heart, with small and frequent pulse. The face and hands soon became dark and bluish. After the administration of some black coffee and castor oil, and the application of a mustard plaster to the abdomen, the blue color disappeared; by degrees the other symptoms followed, except the faintness, which lasted several days.—*Apoth. Zeitg.*

Salol in Children's Diseases.—DR. DEMME has lately published his experience of salol in children. He has used it in four cases of articular rheumatism, two of acute endocarditis, two of vesical catarrh, and also as an external application in two cases of burn. Two of the patients, aged eight and thirteen, were suffering from acute rheumatic polyarthritis. Forty grains of salol were administered in twenty-four hours, in divided doses. The doses were continued during five days in one case, and seven days in the other. When the temperature fell, the daily dose was reduced to twenty-four grains. The effects of the salol were not rapid, but there was no relapse, and the affection only lasted fifteen to sixteen days. Fifty-eight grains of salol were administered at intervals to a girl of seven, suffering from rheumatism. The temperature fell from 39.8° C. (102.9° F.) to 37.2° C. (98.8° F.) in forty-eight hours, and the pain and swelling in the feet, right knee, and left elbow were considerably diminished. In the case of another little patient of nine, the results were not so favorable, and

the salol administered as an emollient or in a lozenge, caused vomiting in from ten to fifteen minutes. A double dose, administered in the yolk of an egg, produced general urticaria in eight or ten hours, without having any effect on the fever or the state of the articulations. Salicylate of soda was substituted, and some improvement followed, but the eruption returned. The patient recovered eight days afterward, but had a relapse. Fifty-eight grains of antipyrin were then administered for four days, at the end of which the patient was completely cured.

In endocarditis, salol gave good results if the action of the pulse was modified by digitalin. In a case of cystitis caused by cantharides, salol also proved beneficial. Daily doses of from fifteen to twenty-four grains soothed the pain, increased diuresis, and caused the alkaline reaction and the muco-pus in the urine to disappear. Toward the end of the treatment the urine assumed a greenish-brown hue, resembling that produced by carbolic acid.—*British Med. Journ.*, December 22, 1888.

The Use of Defibrinated Blood in Chlorosis.—DR. BLONKVAJEFF (*Gaz. clin. de Botkin; Riform. Med.*, No. 251, 1888) undertook a number of clinical experiments to study the therapeutic value of defibrinated blood. Thirty-one patients in various stages of chlorosis were given, twice daily, from two to four ounces of defibrinated calf's blood. The first dose (at noon) was taken in the fresh state, and the second dose, which in order not to putrefy had to be frozen, was taken at seven o'clock. Calf's blood is not so disagreeable to the taste as that of the ox or dog; according to the statement made by some of the patients, it is pleasanter to the taste than many of the iron preparations. Only rarely did the patients complain of a sense of repugnance, and that only at the beginning of the treatment. Frozen blood has no taste at all, but when dissolved it was found less agreeable than fresh blood.

The results of the treatment were the following:

1. Upon the temperature. With patients in whom the temperature was slightly elevated, a return to the normal was noticed after a few days of treatment. The greater number of patients showed a subnormal temperature, which, under treatment, gradually rose to the physiological height.

2. The pulse, at first increased in frequency, became by degrees slower and rhythmical, and retained these properties no matter what position the patient assumed.

3. The dyspnœa disappeared toward the end of the treatment. Patients who at the beginning of the treatment were easily fatigued on mounting stairs, could, toward the end, run up and down, walk briskly, and dance without effort.

4. The body-weight of the patients increased.

5. The appetite increased; the patients slept better and felt stronger.

6. The color of the skin assumed a healthy hue from the start.

7. Headaches disappeared; the same was noticeable of other anæmic symptoms, such as toothache, lumbago, œdema of the face and legs, and perspirations, etc. All nervous excitement abated.

8. The bowel action became more regular; constipation was never produced; and even those patients suffering from diarrhœa could take the defibrinated blood, of course only in small doses.

9. The blood of the patients gained in hæmoglobin and red blood-corpuscles.

10. The quantity of urine and the chlorides therein contained were increased.—*Centralbl. f. d. ges. Therapie*, December, 1888.

Carbolic Acid in Palpebral Affections.—DR. SÉDAN (*Recueil d'Ophtalmologie*, 1888) advocates the following: Take six drachms of cocoa-leaves, eight ounces of water, and fifteen grains carbolic acid; make a decoction. Apply with an ordinary perfume vaporizer, every half hour, each application lasting from five to six minutes. He claims to have obtained better results with this, than with any other treatment. These applications produce a resolution of the inflammatory condition, a suppression of the insupportable itching, and almost complete anæsthesia. In treating sensitive eyes, it would be well to interpose a layer of cheese-cloth before applying the spray.—*Revue de Thérapeutique*, Dec. 15, 1888.

The Treatment of Digestive Disorders in Infants.—At the clinic of DR. ESCHERICH the stomach-pump plays a most important part; especially in stomach affections of infants, in which its application has been followed by good results. Of medicines, Dr. Escherich often uses salicylate of bismuth, the administration of which is preceded by small doses of calomel (three-quarters of a grain being the maximum dose) in order to obtain a slight disinfectant action upon the mucous membrane of the intestinal tract. Milk is entirely withheld, and in its place a diet is given from which all traces of sugar are excluded. Thus the white of an egg with Russian tea—the last as a light stimulant and astringent—forms a pleasant as well as a nourishing potion. Besides this, beef extracts, or calf soup, an alkaline reagent, or peptonized foods are permissible. After two or three days small potions of sterilized milk are again administered.—*Correspondenzblatt für Schweiz. Arzte*, December 15, 1888.

Lantanin, a New Antipyretic.—DRS. ROUIZA and NEGRITA, of Lima, obtained from the Brazilian Lantana an alkaloid called *lantanin*, which acts upon the circulation like quinine; besides lowering the temperature, it has the advantage over quinine of being tolerated by the most delicate stomach. Its antipyretic action has been established in cases of intermittent fever, in which the sulphate of quinine proved useless. It would seem that the fall of temperature was due to the specific action which this drug has over the existing morbid condition.

It can be administered in pills of two grains each, one pill at a dose, giving as much as thirty grains in twenty-four hours.

To prove effective the administration should be made directly after a paroxysm, which ordinarily does not reappear. Some difficulty might be encountered in employing a tincture of lantana, as no corrective has thus far been found for its intense bitterness.—*Revue de Thérapeutique*, December 15, 1888.

For Chapped Nipples.—DR. MONTI advises to cover the fissures with a layer of traumaticin (ten parts gutta-percha dissolved in eighty parts of chloroform), which covering, thus formed, will protect the nipples against the action of the infant's saliva.—*Gazette de Gynécologie*, December 15, 1888.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 12, 1889.

ATROPHY OF THE SECRETING GLANDS OF THE STOMACH.

THE obscurity which always surrounds the diagnosis of atrophy of the gastric mucosa has been brought prominently into notice by the death of a well-known physician of this city, in whose case this diagnosis was accurately made—post-mortem.

There is no single symptom common to all cases of this disease, and this arises from the fact that the function of the stomach is exceedingly complex, and may be, to a large extent, supplemented by that of the intestine. As is well known, a certain number of cases of atrophy of the gastric mucosa present the clinical picture of pernicious anæmia, whereas others —and these form the majority—are not associated with this degeneration of the blood. The explanation of this perplexing anomaly given by LITTEN in a recent number of the *Deutsche medicinische Wochenschrift*, is probably correct, viz.: that in those cases in which profound anæmia is absent, the motor power of the stomach is sufficient to propel its contents, in physiological time, into the duodenum.

Although no one of the numerous symptoms of gastric atrophy is diagnostic, the entire group, taken in connection with a chemical examination of the gastric secretions, suffice to render the diagnosis almost certain. The more difficult question whether the atrophy exists alone as the terminal stage of a chronic catarrh, or as an extension from a carcinomatous deposit, is to be decided chiefly by the clinical history and the age of the patient. The data upon which is based the diagnosis of atrophy, are cardialgia, the absence of mucus and of hydrochloric acid from the gastric secretions, and the diminution or complete loss of the functions of digesting albumin and of curdling milk. In addition, the absorbent power of the stomach may be impaired, as observed by Litten, who was unable to detect iodide of potassium in the urine of patients with gastric atrophy until several hours after it had been swallowed.

JAWORSKI (*Verhandlungen des* VII. *Congresses für innere Medicin*) believes the absence of pepsin and milk-curdling ferment (Labferment) to be the distinguishing marks of gastric atrophy. The secretion of these enzymes is stimulated by the injection into the fasting stomach of a weak solution ($\frac{1}{10}$ per cent.) of hydrochloric acid. Two hundred cubic centimetres of this solution are injected into the stomach, allowed to remain half an hour, then withdrawn and tested with reference to their digestive and milk-curdling power. If these are absent, the diagnosis of gastric atrophy is justified.

Studies of the milk-curdling ferment, with a view to determine the diagnostic significance of its presence or absence, have been recently made by JOHNSON, of Stockholm, BOAS, and KLEMPERER, the result of which is that its importance in this respect is but slight. It is agreed that this enzyme is absent in most cases of chronic catarrh of the stomach, in carcinoma, and in atrophy, *i. e.*, in just those affections in which hydrochloric acid is usually absent from the gastric secretions. The fact is that its diagnostic significance is precisely similar to that of hydrochloric acid, upon which it depends for its very existence. The gastric tubules do not secrete the "labenzyme" itself, but a "proënzyme," or "labzymogen," which is converted into the labferment by means of hydrochloric acid.

From the foregoing remarks it is evident that the diagnosis of gastric atrophy, like that of other obscure affections of the stomach, is largely chemical; and although certainty in diagnosis has not yet been attained by such methods, there is good reason to believe that they are surely leading to it.

THE MUNICIPAL AND MEDICAL CARE OF THE POOR.

THE relation between the medical profession and the State has been as fertile a source of discussion as the relations of church and State. "Paternal

governments" subsidize large hospitals and asylums, and support their officers. This is well exemplified by Austria, which receives the woman pregnant with a foundling child, cares for her, and adopts and for a time supports her offspring. However such a policy may be regarded from the standpoint of the moralist, a direct benefit to science results in the collection of vast material for clinical observation available to competent medical scientists whose services to the State are directly recognized.

Under a republic the problem becomes more difficult. The voter is King, even though dependent on his fellow-citizens, and unless criminal is susceptible to government control in a limited degree only. No man can be taken from his dwelling, which is his castle, to a hospital against his will. Clinical material is to be obtained with comparative difficulty, and competition in the control of the sick poor results in establishing dispensaries and hospitals which are private enterprises. This commercialism in medicine is the logical result of the present relations of the profession and the government, municipal or general, and in process of time will undoubtedly be changed.

Medical men interested in science, in medical education, and the good of the community have a duty in improving these conditions which should not be slighted. The functions of the government as a promoter of progress in medical science should be largely supported. Municipal hospitals, infirmaries, and almshouses should be brought to a high standard of excellence, and thus made to coöperate in increasing medical knowledge. While the citizen of a republic may not be as completely in the hands of the State as the monarchist, yet American laws supported by intelligent public opinion exercise a wise and humane control over the poor. This control is best exercised by discrimination regarding the needs of the individual case. The acute and chronic disability should be promptly recognized, and public funds used quite differently in dealing with the two. For the former the hospital is indicated, where proper medical care, aided by the best known appliances, will return the patient to self-support as quickly as possible and at the least expense to the State, having contributed clinical observations to medical science. For the chronic and disabled, a place of abode should be provided where, in proportion to the strength of each, sufficient labor may be performed to reduce the cost of maintenance.

Experience in other cities has shown that a city hospital, as perfectly equipped as possible, and an almshouse and farm, removed a convenient distance from the town, furnish the best method of caring for the poor. The almshouse should have sufficient land for a farm on which inmates may labor in suitable weather. The best interests of science and good government are, in a measure, defeated when a city hospital is allowed to remain so crowded with the chronically disabled as to tax the resources provided for acute cases. Such is now the case with the Philadelphia Hospital, one of the oldest and largest in the country. Under the efforts of the Board of Charities and its medical staff, with its admirable training school for nurses, it has been brought to a high grade of efficiency as a hospital, affording facilities for the scientific treatment of disease and available for medical education. It has labored under the disadvantage of overcrowding by indiscriminate inmates. A move is now on foot to correct this condition by the removal of those suitable to an almshouse, leaving the hospital to continue unimpeded in its growth and development.

A similar experience is not uncommon in American cities, and it is the duty of the profession to join hands with the municipality in mutually furthering medical science and good government.

THE United States Commission for the investigation of hog cholera have concluded their labors in Baltimore for the present and have gone to South Carolina. The Commission is composed of three members—Professor Shakespeare, of the University of Pennsylvania, Chairman; Dr. B. M. Bolton, formerly of Johns Hopkins University; and Professor Burrill, of the Botanical Department of the State Agricultural College of Illinois.

THE recent news from Hayti shows that the U. S. ship "Yantic" has been ordered home in consequence of yellow fever having boarded her. The "Yantic," being of wood, will hereafter have a very restricted sphere of usefulness. The "Boston," iron cruiser, having been stripped of all her contents, will this week be burned out with sulphur by the barrel. The extent of the fever outbreak on the "Yantic" is not known, but it is believed that she has never been infected hitherto.

THE Trustees of the University of Pennsylvania at their meeting held this week transferred Dr. James Tyson from the Chair of General Pathology and Morbid Anatomy to that of Clinical Medicine, and

Dr. John Ashhurst to that of Surgery. The appointments to the vacant Chairs of Pathology and Clinical Surgery will probably be made next month.

AT the annual meeting of the College of Physicians of Philadelphia, held last week, Dr. D. Hayes Agnew was elected President for the current year.

DR. THEOPHILUS PARVIN has been elected President of the Obstetrical Society of Philadelphia.

AT the annual meeting of the Kings County Medical Association, held on the 2d inst., Edward R. Squibb, M.D., was chosen President for the ensuing year. The Association has found permanent quarters at the new Hoagland Laboratory.

THE German government maintains a paternal oversight of the workmen upon the public works. The *Engineering Record*, for the 8th ult., shows that a considerable sanitary control is imposed upon the contractors of the great Northeast Sea Canal, connecting the Baltic with the North Sea, both as to the selection of the workmen and as to their treatment at the works and in the sheds or barracks.

The canal commission is obliged to keep up at the larger sheds a continuous series of instructions in what is termed the "Samaritan Service"—a new but very significant expression—upon which instructions all the laborers may, in turn, be required to attend by the shed-inspectors. A fire-drill, similar to that which is seen on ocean-going steamers, is a part of the scheme. The cost of these lessons is borne by the governmental commission having oversight of the laborers.

In many of the large public works in this country there has been a general disregard of the sanitary rights of the workman; and we know of some instances where the loss of life has been wasteful in the extreme. We commend to our philanthropists and to the "lovers of the workingman," a careful study of this German innovation, "the Samaritan service," as a means of education in presence of mind, self-help, and as a measure conservative of his sanitary rights.

One other salutary provision which exists in this German oversight of the workman, is the exclusion of contagious and unsightly disease from the sheds, and this is accomplished by means of a medical examiner whose decision is final in regard to the admission of all new men upon the works.

THE self-prescriber has already heard of sulphonal and is taking it in the maximum dose in order to produce sleep. He is also recommending it to his friends who cannot sleep, in doses which are not free from danger. The popular use of antipyrin, which has been going on for over a year, has done no little injury; we have known thirty grains to be advised by one layman to another as an initial dose. We predict that the time must soon come, through the multiplication of these potent neurotic medicines, when physicians will insist upon the non-renewal of these potent prescriptions by pharmacists without a written order. It seems to us quite probable that we have simply arrived at the threshold of this department of chemical work, and that the profession will be compelled to throw additional safeguards around the unauthorized use of these powerful agents.

THE educational departments of various governments present reports showing the number of students who matriculate in the colleges, universities, and seminaries. In Germany the number is 24,000; in Great Britain 26,000; in this country 90,000. These figures when compared with the estimated populations of the same countries, enable us to make the following ratios: in Germany there are 53 students in 100,000 inhabitants; in Great Britain there are 46; while in the United States there are not less than 150. The demands of the standing armies of most European nations must shut out a great many male students from advanced collegiate pursuits. Militarism hampers the higher education.

THE death of Dr. Joseph L. Bodine, of Trenton, New Jersey, at the early age of forty-nine, robs the Medical Society of that State of a valuable member. He died January 2d. He was a graduate of the University of Pennsylvania, Class of '65. He had formerly been a Commissioner of the Sinking Fund for New Jersey.

REVIEWS.

A PRACTICAL TEXT-BOOK OF THE DISEASES OF WOMEN. By ARTHUR H. N. LEWERS, M.D. Lond., M.R.C.P. Lond., etc. Crown 8vo. pp. 400. London: H. K. Lewis, 1888.

THE most convenient handbook for the student, or to refresh the memory of the busy practitioner, which we have seen. Thoroughly up to modern knowledge, it contains no superfluous matter, but clinical points of importance are clearly illustrated. Some peculiarities of English practice appear: iodine water is used as an

antiseptic, and the practical value of electricity in treating pelvic exudates and neuralgias is not fully recognized. Modern pathology and operations are concisely stated; instruments are described: symptoms noted; and even the rest cure receives mention. The book is a veritable *multum in parvo*, and of decided utility.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNECOLOGY.

JOSEPH JANVRIN, M.D., CHAIRMAN.

Stated Meeting, December 27, 1888.

DR. JAMES P. TUTTLE reported a

CASE OF EXTRA-UTERINE PREGNANCY IN WHICH THE FŒTUS WAS DELIVERED AT FOUR MONTHS PER RECTUM.

There is no subject of greater interest now before the profession, he said, than the diagnosis and management of ectopic gestation, and aside from its unusual termination, the case in question would, he thought, suggest some of the difficulties, not to say impossibilties of diagnosis, and would seem to illustrate the complications of certain methods of treatment advocated at the present day:

The patient was a lady thirty-five years of age, who had been married eleven years, but never was pregnant. For several years she had been treated by various methods for "falling of the womb." The menses had been generally regular, but several times had been delayed or omitted, without causing any inconvenience. Dr. Tuttle was called to see her on March 26, 1888. Her last two periods occurred about the proper time, though the flow was less free and of shorter duration than usual. She missed entirely her period due on March 13th, a circumstance which she attributed to exposure to the blizzard-weather of that date. She had always had a delicate stomach, and for some time past she had been troubled with nausea and loss of appetite.

Digital examinations showed the uterus to be slightly enlarged, well down, and apparently retroverted, or with posterior mural fibroid. The use of the sound was contra-indicated on account of the possible existence of pregnancy. There were great periuterine tenderness and great heat about the parts. The right ovary could be made out with difficulty, but was found to be enlarged and tender. The left could not be felt. The diagnosis made was pelvic cellulitis and ovaritis of right side; possible pregnancy.

Tho days later he saw the patient during a paroxysm of pain which was referred entirely to the rectum. It was due apparently to a spasm of the sphincter of that organ, and was promptly relieved by cold applications, and lifting up digitally what he supposed to be a large retroflexed and gravid uterus. An examination under anæsthesia was refused, and the patient, who was not disposed to accept the theory that she was pregnant, requested that she should be treated with electricity, which she said had been formerly successfully used in her uterine troubles. Believing that this was not the proper method to be pursued in the case, he surrendered her to an electro-therapeutist of the eclectic school, who had treated her before.

On April 23d, Dr. Tuttle was again requested to take charge of the case. The patient was then very weak, and unable to retain anything on her stomach. Pulse 120, temperature 101°. As the instruments used in the electrical treatment had been passed within the uterus, the diagnosis of pregnancy had been disposed of. She said she was still flowing from a menstrual period which had come on after an electrical *seance* several days before, and therefore an examination was deferred until a later date. He afterward learned that after this *seance* she had had a severe hemorrhage, lasting for several hours. At the time, she told him that she had had a severe and painful menstrual period lasting six days, during which she had passed large pieces of black blood, and leaving a slight flow, which still continued. Altogether the flow lasted six weeks, and this led him to believe that an abortion had been produced, and an islet of placenta left adherent.

Two days later the patient was in a much better general condition, and an examination was made, revealing the following condition: Continued vaginal heat and tenderness in peri-uterine pelvic tissues, uterus enlarged to five inches, slightly movable, in fair position, inclined somewhat to the right side. A large, round, hard tumor was between the uterus and rectum, not particularly painful on manipulation; closely attached to the uterus and movable with the latter, and to about the same extent. It presented the symptoms and feeling of a fibroid or possibly a hæmatoma.

The hot douche, boroglyceride tampons, and general constitutional remedies were employed for some weeks with fairly good results, and the patient believed that she was getting well. In spite of Dr. Tuttle's protests, she continued to attend to household duties, going to market, etc., and even furnishing a new flat, to which she moved during this time. On June 1st, his note was as follows: Has had continued slight flow of blood from uterus for past three weeks, in spite of local application of astringents, and administration of ergot and gallic acid. The dull curette does not find any vegetations, and the lining is smooth. Tumor does not seem to grow in size, but is sagging down in sacral fossa, causing retroversion and difficulty in stools, due to pressure on rectum, and commencing hemorrhoi's. Injected f℥ss ferri sulph. into cavity of uterus, and several large tampons inserted during the knee-breast position, with the idea of raising the tumor, if possible, above the pelvic brim.

The hemorrhage finally ceased altogether, and on June 25th he found that the tumor had sunken considerably lower and presented sensations of slight softening or breaking down. He proposed to put an aspirating needle into it in a day or two, but the next day he was hastily summoned to the house, where he found Dr. Harvie Dew engaged in delivering a fœtus from the rectum of the patient; severe griping and intense pain having followed the use of a cathartic the night before. He had been called after the feet had presented at the anus, and the delivery was accomplished without difficulty. The rent in the wall of the rectum was perpendicular in direction, and as straight and clean-cut as if done with a knife. It was two and a quarter inches in length, and located on the left posterior aspect of the gut about two or two and a half inches from the anus. The

cord was intact, but was atrophied and became detached from the placenta by the slight traction required in using it as a guide in reaching the latter. The placenta not following the child, the patient was etherized and an attempt made to remove it. It was firmly adherent, however, and the little manipulation ventured upon brought on arterial hemorrhage to such an extent that it was decided that it would be unwise to use any force on account of the weak condition of the patient. The cavity was therefore tamponed in the hope that the placenta would attach itself, or degenerate and come away gradually. By the time this had been accomplished the patient had an alarming failure of respiration, and artificial respiration had to be resorted to to keep her alive. Under hypodermatic injections of stimulants, hot packs, etc., she revived, and in the course of two or three hours was feeling quite comfortable, with a temperature of 99°, and pulse 140.

The patient continued very weak but suffered little pain. On June 28th the placenta was found plugged tightly in the rent; but the slight attempt to remove it brought on a condition of extreme shock, and it was decided not to interfere with it in her present state. About 7 A. M., on July 1st, she complained of a sinking sensation, and had Dr. Tuttle summoned. On reaching the bedside he at once recognized that she was sinking from hemorrhage, although he found the placenta still plugged into the rent in the rectal wall, and no blood was escaping into the rectum. All efforts to save her failed, and she died in about an hour. As her last request was that no autopsy should be made, the attachment of the placenta remained uncertain, but he thought it probable that it was to the left tube or ovary, from the absence of the latter in its accustomed place, and from the position of the placenta to the left of the median line.

It was to be observed, he said, that the patient had no definite symptoms of rupture of the tube or hemorrhage therefrom, while she was under his care. He, therefore, judged that the cyst containing the child had probably burst into the cavity or folds of the broad ligament, as in some cases mentioned by Lawson Tait; and believed that but for the severe straining produced by her self-inflicted catharsis, it would have proceeded to the usual result in such cases, viz.: decomposition, abscess formation, and its concomitant constitutional symptoms, rupture, and discharge through the rectum or vagina. It was also noticeable that there were never any of those colicky pains usually met with in ectopic gestation, and that the symptoms of pregnancy had almost totally disappeared when she came into his hands a second time. In fact, the symptoms after this were those of a simple uterine fibroid or hæmatoma, indicating that the death of the fœtus had taken place before this time; and it was his opinion that this had been brought about by the electrical treatment employed. The case was of interest, he thought, therefore, as illustrating the dangers of electricity in extra-uterine pregnancy (which had been so long advised by some of the best gynecologists), and the darkness in which we were afterward left. The fœtus was in a good, but not perfect state of preservation; and Dr. Tuttle said that while numerous instances are on record of disintegrated fœtuses being delivered out of abscess sacs through the rectum or vagina, he had failed to find in the literature of the subject a single case in which, as here, the delivery of the fœtus occurred intact.

DR. R. A. MURRAY presented

SPECIMENS FROM A CASE OF HÆMATOMA OF BOTH OVARIES.

In this case extra-uterine pregnancy was suspected; but no evidences of its existence could be detected. Pyosalpinx was found in addition to hæmatoma, in connection with one of the ovaries.

DR. HENRY C. COE read a paper on

THE IMMEDIATE APPLICATION OF FORCEPS TO THE AFTER-COMING HEAD IN CASES OF VERSION WITH PARTIAL DILATATION OF THE OS.

He said he desired to call attention to a single condition in which the forceps should be at once used in cases of version, and would not be understood as advising their general use after version, or even the immediate delivery of the child. The following illustrative cases were cited:

CASE I.—Primipara, æt. thirty-five, slight contraction of the anterior conjugate. Labor induced near term from albuminuria and threatened eclampsia. The patient was very anxious for a living child. The head was grasped by the cervix, and could not be extracted until the forceps were applied; when it was readily delivered, but too late to save the child. The perineum was torn through the sphincter, but healed with primary suture.

CASE II.—Multipara, æt. thirty-five. Several dead children had been previously delivered by forceps applied high up, and she greatly desired to have a living child. There was slight narrowing of the anterior conjugate diameter. Version was performed; the head being arrested by the partly dilated cervix. The forceps were applied after vain attempts at manual extraction, and the child rapidly delivered; but it could not be resuscitated. In this case there was no laceration of the perineum.

CASE III.—Primipara, æt. sixteen. There was great rigidity of the soft parts. Eclampsia of unusually severe type occurred, and labor was induced. Version was performed, and the head was arrested, as in the previous case. Considerable time was wasted in manual extraction, and it was finally delivered with the forceps. The child was dead. Laceration nearly through the sphincter; healed with primary suture.

CASE IV.—Multipara, æt. thirty-eight. Hydramnios and fatty heart. Labor was induced near term. Atony of the uterus and serious cardiac disturbance occurred, and the fœtal heart was irregular in action. Version was resorted to. The head was grasped by the cervix, and the forceps were applied after a loss of several minutes. The head was large and unyielding, and the fontanelles were found to be nearly closed. The child was resuscitated, but died in convulsions a few hours later. There was a superficial tear of the perineum.

In each case the mother made a perfect recovery. From the results met with in these cases Dr. Coe inferred that many children might be saved under such circumstances by immediate application of the forceps. The reduction of infant mortality, he said, was especially important in private practice, and it was just the class of patients in whom we were obliged to perform version and extraction, who were most anxious to have living children. We must not allow our ideas as to the small importance of the child's life, imbibed in our hospital service, to influence us in private cases.

The application of the forceps did not present special difficulties. The perineum might be badly torn, or the cervix might be lacerated, in consequence of the rapid delivery; but patients would gladly overlook such lesions if the child's life was saved by the physician's prompt action, especially if former children had not survived. In conclusion, he called attention to the fact that in the cases reported (two of which were in private practice), the operator had had skilled assistants and nurses, who possessed experience in this class of cases; and yet had been unsuccessful. Under similar circumstances he would not lose a moment in attempts at manual extraction; but would apply the forceps as soon as he recognized the fact that the constricting cervix did not yield.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, December 12, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. JOHN H. PACKARD read a paper on

NOTES OF A SUCCESSFUL CASE OF LAPAROTOMY FOR INJURY BY A CIRCULAR SAW.

Charles B., aged twelve, was brought to the Pennsylvania Hospital, September 24, 1888, having fallen against a circular saw in rapid motion. The accident occurred about one mile from the hospital. On admission, the ascending colon and about two feet of the small intestine were protruding from a wound four inches or more in length, nearly vertical, on the right side of the belly, some two inches from the middle line. The mass was tightly grasped in the wound, so that access of air to the peritoneal cavity was prevented. The boy was in a condition of marked but not excessive collapse. He was etherized, and the parts antiseptically cleansed. The bowel was then carefully examined. Three wounds of the intestinal wall were detected; one involving the entire thickness, the other two the peritoneal coat only. At several points the omentum had been wounded, and the mesentery was cut in two places. The boy's woollen clothing had been torn by the teeth of the saw, and a great many minute shreds of the stuff deposited on the surface of the protruded mass. The three intestinal wounds were carefully sutured with very fine silk, after the method of Lembert. All the bleeding points were secured with fine carbolized catgut. Some ragged portions of omentum were similarly tied and cut off. Attention was next given to the cleansing of the peritoneal surface from all the bits of woollen threads deposited on it; a very tedious process, occupying more time than any other part of the operation.

In order to return the protruded mass it was necessary to enlarge the wound somewhat; after which reduction was accomplished without difficulty. After irrigation of the peritoneal cavity, the edges of the wound were brought together with silkworm-gut sutures, secured by shot. A glass drainage tube with a closed and rounded end was inserted, and the usual antiseptic dressings applied, with a flannel bandage over all. Every two hours the cotton rope filling the tube was removed, and suction was made with a hard-rubber syringe with a long nozzle, so as to prevent any accumulation of secretions.

Reaction took place very favorably; the boy had only very slight pain, but some nausea and vomiting, which continued all next day, subsiding toward evening. A free movement of the bowels occurred, and he learned later that an attendant, just after the boy's admission, had given him by mistake ten grains of blue mass, intended for another patient. As soon as the stomach became quiet, the administration of prepared milk and beef-tea, alternately every two hours, was begun. On the fourth day there was only a slight yellowish discharge from the tube. On the fifth day the glass tube was removed, and a soft-rubber one substituted for it. Solid food (milk toast) was given, and on the sixth day he ate an egg and some chicken-broth.

A day or two after this the tube was removed, and a few days later the sutures. For some two weeks after this the boy was kept in bed; he was allowed first to sit up in bed, and then to get up and walk about.

After the spontaneous movement of the bowels on the second day, an enema of turpentine and sweet oil was administered about every third day until his dismissal.

On October 31st, thirty-seven days after the injury, he walked into the clinic-room; and on November 12th he was discharged, with directions to wear a binder for some time, and to report before dispensing with it.

Certain features of this case may be briefly commented upon. The boy's youth was, of course, in his favor. He was stout and healthy, although his surroundings had not been, by any means, hygienic. But there was one circumstance of special advantage—the fact that the protruded mass quite filled up and plugged the wound in the abdominal wall. Besides this, the wounds were all of small extent, and no large vessels were divided. The presence of the almost innumerable shreds of soiled woollen clothing on the peritoneal surface was of course an element of danger, only to be set aside by the utmost care and patience in their detection and removal.

DR. JOSEPH PRICE said that the fact that the protruding intestine completely closed the wound had a great deal to do with the successful result in this case. We know that undue manipulation and prolonged and needless exposure of intestine are frequent causes of shock and death; this fact is beautifully illustrated in needlessly prolonged operations. He never could understand the vicious do-nothing policy of ambulance surgeons in these cases of abdominal incised wounds. The ambulance surgeon should be prepared and instructed to act promptly in such accidents. Promptitude is everything. A pitcher of warm water and a few threads might save lives that are lost by carrying the patient untreated, with the intestines exposed, covered by filthy clothing, to the distant hospital, there to wait for the chief to arrive before anything is done. He recently read of a case of a man who was accidentally eviscerated while hunting alone in the backwoods. Some one found him with the intestines protruding and covered with dirt, and carried him to the nearest brook, washed and sewed him up. He was also fortunate in *being away from opium* and from meddlesome nurses and officious residents of a general hospital, and he recovered. The strictest simplicity, absence of opium and of milk, indeed of all food till the patient asks for it, except in greatly exhausted cases demanding early support or stimulation, will give the happiest results. He gives plenty of fluids, toast water, barley water, stimulating enemata of beef-tea, with, perhaps, a little whiskey if needed, and enemata of water to relieve thirst. We

know how difficult it is to prevent hemorrhage in ether-nausea. Careful preparation for the operation by the free use of salines will minimize the ether and bowel disturbance. He is satisfied that the free use of the salines is of greater importance *before* operation than after in abdominal work. The unintentional administration of blue mass in this case of Dr. Packard's was a happy accident and helped recovery. He wished particularly to congratulate Dr. Packard upon the excellence of the toilet, the care to secure perfect cleanliness under such difficult conditions, and the perfect drainage. The careful removal of all foreign material from the bowel, free irrigation, and perfect glass drainage in two desperate cases have given him a triumph in two cases of abdominal work.

DR. PACKARD desired to say a word in reply to Dr. Price in defence of opium. If we remove a tumor all goes well until water is injected into the abdomen. Pain ensues immediately. We give a grain of the extract of opium by the rectum, when the pain disappears the patient goes to sleep and wakes in comfort. Are we not justified in attributing this to the opium, and relying on the same measure in similar cases? Of course, it would be a great mistake to treat all cases of peritonitis with opium. The saline treatment is proper in suitable cases, and saves many lives. So may we say of opium in suitable cases. The error is in exclusiveness, whether in the one direction or the other. We must use our judgment in individual cases, and prescribe in view of all the conditions present. In this case he thought nothing would have served his patient as the one grain of the extract of opium did. It was not a case of peritonitis however, and he did not so regard it. But suppose some enthusiast in salines had ticketed the case peritonitis and immediately administered purges, he hardly thought such prompt relief would have been afforded. He would like, while on this subject, to mention a measure which he had employed for many years, and which has repeatedly seemed to him to avert threatened peritonitis, and that is the application of a dozen leeches to the abdomen. After operation for stone especially, as well as in other cases of traumatism, marked benefit has been derived from the adoption of this plan.

NEWS ITEMS.

The German Imperial Health Office.—The Government proposes a change in this office for the coming year, rendered necessary by the increased amount of statistical work required of it. The proposed change is in the direction of the institution of a new department for the carrying on of this work. All other departments will remain as before, with the exception of the changes in the mere *personnel* of the staff, and are estimated to cost for the year, in round numbers, about 135,000 marks.

Only one of the original ordinary members of the office, which was founded thirteen years ago, still remains at his post, viz., Prof. Sell, the director of the department relating to the chemical investigation of foods. All the other posts have undergone changes as to their incumbents. After several changes, the post of hygiene was occupied by Dr. Renk. When Prof. Robert Koch took over the chair of hygiene at the University, he still retained a seat on the board in the allied department of epidemiology and bacteriology, and as ordinary member for hygiene came his pupil, Dr. Gaffky, who has since been translated to Giessen as professor of that branch of science. His post in the health office is not yet filled up, but the duties are temporarily performed by Dr. Petri, the former assistant of Koch, and curator of the hygienic museum. It is expected that he will be promoted definitely to the post he now fills provisionally, and that his place in the musenm will be filled by the appointment of Dr. Erwin von Esmarch, a son of the celebrated Kiel professor of surgery.—*Medical Press*, December 19, 1888.

Proposed Inoculation for Yellow Fever.—A press telegram states that DR. PAUL GIBIER, of Paris, who some years ago, in Spain, inoculated himself and others with the germs of cholera then raging there, the inoculation proving successful, will offer his services to the United States Government to establish an experimental station for treating yellow fever.

Dr. Gibier, in discussing his plans, is reported to have said: "I think a safe method of inoculation and care of human beings will result in the prevention of yellow fever. If the Governmnut desires it, I shall offer my services to establish a laboratory on one of the keys off the Florida coast, and, getting fresh matter from Havana or Key West, stock my island with monkeys, and spend a year, if necessary, perfecting a method of treatment of the fever. I shall report what I have done so far to the medical societies here and in Washington."

The Memorial to the British Medical Association.—*The Medical Press*, December 19, 1888, states that it understands that a private meeting of the signatories to the memorial recently presented to the President and Council of the British Medical Association took place recently, to consider the reply of the Council thereto. A large number of influential members were present, and although being a private meeting, it is not at liberty to divulge the details of the proceedings, it may be stated that it was generally felt that the *Journal* was not conducted in such a manner as to raise the moral tone of the profession, but, on the contrary, it was subverted to favor the interests of those whose line of action does not accord with the views of right-thinking men. It was urged that the Association expended a large sum of money annually on the *Journal*, and was under an obligation to exercise a strict surveillance on its management. It would seem that the dissentients are not disposed to rest satisfied with their abortive protest, and the futher evolution of the movement is awaited with interest and curiosity.

The Mortality on the Panama Isthmus.—The tribute of valuable lives paid to the insalubrity of the Panama isthmus (says *Engineering*) has been very heavy. M. A. Nichols, who had the organization of the sanitary measures for the protection of the workmen, states that amongst the European element there have been 5200 deaths during a period of two years and three months, the burials averaging about seven per day, and the death-rate being 98 per 1000. In one station, amongst 159 young men specially selected for their physical vigor, 23 have died within twenty-two months. Amongst the colored workmen the loss has not been anything like so

heavy, only 51 having died out of 2100 during the period considered.—*Lancet*, December 22, 1888.

Disinfection of Surgeons' Hands.—A great deal has recently been said about surgeons' nails and nail-brushes in hospital wards. Bacteriologists have come to the conclusion that the usual washing of the hands with weak antiseptics is quite efficacious in killing pyogenic and specific germs on the hands, but does not destroy micro-organisms which lodge under the nails. Dr. Fürbringer, of Berlin, believes in washing the hands with soap, then with alcohol at 80° F., then in a sublimate solution. The alcohol is said to soak well into the nails. Drs. Roux and Reynès have tried experiments with alcohol on nails purposely infected. In forty cases in which the infection was experimental, and carried on in the laboratory, asepsis was proved in thirty-three. In eight cases in which infection was clinical, the hands being washed in the usual manner after touching infected fluids, only four were proved aseptic after the above elaborate system of washing. Drs. Roux and Reynès nevertheless advocate this antiseptic ablution, noting that the nails are seldom so thoroughly rubbed after every operation as when an experienced physiologist cleans them after some special experiment. In all cases of enforced sanitary measures routine practices and habits must be taken into account. —*British Med. Journ.*, December 22, 1888.

Danger in the Postage Stamp.—The *Sanitary News* calls attention to the fact that a postage stamp may in various ways convey contagion. One of the simplest and most plausible, is that in which a postage stamp, partly attached to a letter to pay return postage, is sent by a person infected with some disease to another person. The disease is transferred in the first place to the adhesive stamp through the saliva, and in being attached to the letter by the receiver the poison may be transmitted to him in turn through the saliva. Another cause may be the infection of the stamp with disease germs. That this is true can be proven very simply by a microscopical examination.

We often see persons holding change for a moment in the mouth, probably not knowing that investigation has shown that disease germs can be carried by money. If they could see through what hands the money has passed, they would hesitate before using such a third hand. Silver money is as bad as paper money, but while many would hesitate to hold a dirty bank note in their mouth, they think that a silver piece, because bright, is apparently clean.

Photography of the Male Bladder.—According to the *British Medical Journal*, December 22, 1888, Mr. Hurry Fenwick and Mr. Pearson Cooper, of the London Camera Club, have been working for some considerable time at photography of the human bladder. Various obstacles were in turn recognized and overcome, and they have now so far perfected their vesical camera and method as to obtain good negatives of the interior of "dummy" and dead bladders. They hope before very long to describe a method of recording the appearances and progress of diseases of the living bladder. The negatives are taken *per urethram* through a tube of 23 French calibre (11 or 12 English).

Executions by Electricity.—It is reported that it is not unlikely that at the present session of the New York Legislature the law, which went into effect the first day of the year, providing for the execution of murderers by electricity, will be repealed, or the time extended for its going into effect. It is not altogether sure that executions by electricity can be made without pain or mutilation. Electricians are divided on the subject, and the majority seem to be opposed to the law. It is noticeable that every electrical journal opposes the electrical method of execution as inexpedient and inhuman, and in a recent address Professor Brockett, of Princeton College, spoke of execution by electricity as an outrageous thing and the degrading of a noble agent to an ignoble use.

But though the practicability of electricity as a substitute for hanging is thus thrown in doubt, the other provisions of the law passed last year ought to remain. The most important of them are the requirements that all executions shall be in private, at an hour only known to the Sheriff, and that there shall be no publication of the details of the event. There will probably be fewer murders when it becomes known that the criminal condemned to die shall be led to execution at an unknown hour and then put to death in the presence of only legal witnesses, and the fact of his execution made known to the world only by a brief paragraph in the papers. But electricians should be agreed as to the advantage of using electricity as the legal method of executing murderers, before the method is actually applied.

Counterfeiting Mellin's Food.—A druggist was arrested in Philadelphia last week, at the instance of the Dolibier-Goodale Company, charged with swindling and obtaining money under false pretences by selling as Mellin's food a spurious compound of his own manufacture under their name and registered trade mark. He confessed his guilt and in default of bail was committed to the County Prison. It is reported that this arrest will be followed by others, as the parties in interest are determined to follow up with rigor and prosecute all who are found to tamper with their labels and goods.

Post-graduate Instruction in London.—The popularity and, it may be assumed, usefulness of post-graduate instruction has recently been proved to be beyond question in London, as well as in other large centres of medical learning. But so far, in the former case, only a limited field for the work has been available. One hospital only in the metropolis has been engaged in the organization of a post-graduate course, and it has probably been the success of this which has prompted the suggestion of the scheme which is now in process of elaboration. The scheme consists of seeking the cohesion of six hospitals with their staffs in London, with the object of laying open for post-graduate purposes the large number of seven hundred and sixty beds. The hospitals, in detail, are composed of one general, one for diseases of the eye, of the skin, of the nervous system, of women, and lastly, of children. The members of the staffs of these six institutions would be required to deliver lectures at some central situation, such as the Examination Hall upon the Embankment, at stated intervals, and give clinical instruction in the wards and out-patient rooms to the post-graduate students. We understand that the scheme has been submitted to the various hospitals here referred to, and meetings have

been held to discuss the matter.—*Medical Press*, December 12, 1888.

Sir Morell Mackenzie in Edinburgh.—Sir Morell Mackenzie in the early part of this month gave two lectures in Edinburgh, on the first day to the members of the Edinburgh Philosophical Institution in the Music Hall, on "Speech and Song," and on the second, to the students of Edinburgh University, in the U. P. Synod Hall, on "The Relation of Culture to Professional Success." Both lectures were well attended, and from the students Sir Morell had a most enthusiastic reception, and was presented by them with an illuminated address. Mr. J. R. Findley acted as chairman at the Music Hall, and Professor Campbell Frazer, Dean of the Faculty of Arts, at the students meeting. It is certainly a significant fact that Sir Morell was not accompanied to the platform on either occasion by any of the prominent medical men of Edinburgh. This might have passed without particular comment, had not the daily papers taken up the subject, and roundly abused the medical profession for their conduct toward the lecturer.—*Medical Press*, December 12, 1888.

The Limits of Professional Secrecy.—Professional secrecy has attained a degree of refinement and comprehensiveness in France which must seem strained to medical men who have before now found themselves obliged to reveal such details and information as an indiscreet counsel may take upon himself to require. Quite recently a very knotty question has suggested itself, and as it applies as much in this country as in France, it may be worth while to take cognizance of it. Is a medical man justified in remaining silent when his doing so may prove detrimental to a large number of persons?

The particular case which gave rise to the discussion was that of a lady living in one of the large houses let out in flats, who suddenly developed smallpox. It was ascertained that the porter, who had been ill for some time previously, was himself suffering from this disease. His condition had been purposely kept secret by the medical man in attendance on the ground that a breach of confidence would expose him to the penal clauses of the law which recognizes, and, if need be, enforces the reticence of medical men in respect of matters appertaining to their profession. From the French point of view, the doctor's duty would be limited to advising the patient to give the necessary warning, but in this country the medical man would probably be considered justified in taking the matter into his own hands rather than expose a whole category of persons to the risk of contagion.

As a general principle, the reticence of a medical man in all that concerns his relations with his patients is one which is in the highest degree commendable, but occasions may, and occasionally do, arise, in which the duty of the doctor to society at large must over-ride his duty to his patient. The notification of infectious diseases would probably fall within this category were it not that the object in view can better be attained by casting the responsibility of making the notification on the householder, merely obliging the medical attendant to give formal notice to his patient or patient's friends. The great point is that the plea of ignorance was not admitted as a valid excuse for non-notification.—*Medical Press*, December 12, 1888.

Bacteriology of Snow.—While the bacteriology of ice and hailstones has been studied with considerable success by Drs. Fränkel, Bischoff, Mitchell Prudden, Pumpley, Hills, Stoben, A. V. Poehl, Bordone-Ufreduzzi, Bujwid, etc., that of snow has been up to the present almost wholly neglected. Even in Russia the subject has been touched only in a cursory way by PROF. A. V. POEHL in a paper on "The Water-supply of St. Petersburg," in the *Vratch*, Nos. 8 and 9, 1884, p. 119. In it he points out: 1, that snow always contains viable microbes liquefying gelatine; 2, that, when snow falls, the first portions invariably contain greater numbers of bacteria than the subsequent ones (for example, 8324 per 1 cubic centimetre of snow-water against 3380 several hours later); 3, that, when snow lies on the ground, the superficial layers become richer in microbes (for example, 780 just after the fall, against 962 about three hours later). The fact is of interest from a sanitary point of view, as Dr. Poehl's researches furnish an additional proof that exposure of microbes to low temperatures does not destroy their vitality; at least, in certain species of microorganisms. In many countries, such as Russia or Sweden, snow forms, so to speak, a natural ground or soil during several months of the year, receiving excrementitious matter and every possible kind of refuse and filth. In spring, when the snow melts, it is imbibed by the soil, carrying with it all the polluting matters referred to. Hence an interesting question arises: Are such microbes as happen to be present in these matters in any way changed by their contact with snow, or not? This point can be determined only by further bacterioscopic researches.

A contribution to the subject has just been published in the *Vratch*, No. 37, 1888, p. 727, by DR. F. G. IANOVSKY, of Kiev, who has examined bacterioscopically, under Prof. K. G. Tritshel's guidance, a February snow in its purest state, collected both immediately and from one to three days after its fall. This observer has found: 1. That even when collected during its fall, snow is invariably found to contain living bacteria in considerable numbers, varying from 34 to 463 per one cubic centimetre of snow-water. 2. That their number does not decrease from exposure of snow to low temperatures (—16° C.) for several days. 3. That the following three species of microbes are met with constantly in great numbers: *a*, a large diplococcus composed of ovoid cocci, endowed with energetic motion, and characterized by its rapidly liquefying jelly; the test-tube culture on the third day, forming greenish colonies along the track of the needle, assumes the shape of a funnel-like sac with a whitish flocculent deposit, while on the fifth, the whole medium becomes liquefied, the precipitate sinking to the bottom; on agar a pale grayish-white streak is formed at the site of inoculation, on potato a fairly thick white film; *b*, small-sized cocci often arranged two and two, energetically mobile, and slowly growing on jelly without liquefying the medium, the growth proceeding solely along the track of the needle in the shape of a narrow stripe consisting of non-coalescing minute points of a yellow color, while on the surface the colony is seen as a grayish-white, circular, slightly prominent patch with somewhat fringed edges; on agar the coccus forms a white streak with sinuous edges, on potato a gray film with a brownish tint; *c*, very large cocci liquefying jelly as late as three weeks after inoculation, and growing

along the track of the needle in the form of a sharply defined streak of a beautiful pink color, with a slightly elevated pink circular patch or "cap" on the surface; on agar the microbe forms a freely spreading white film with a rosy tint, on potato a thick, tallow-like, pink coat with sharply defined fringed contours. 4. That the first two species (*a* and *b*) are also met with commonly in the water of the river Dnieper, which flows through the town (*vide* Dr. Ianovsky's bacterioscopic examination of the water, published in the *Meditzinskiĕ Obozrenïĕ*, Nos. 9 and 10, 1888, p. 975), while the peculiar pink micrococcus seems to occur only in snow. 5. That, generally speaking, the microbes liquefying jelly in falling or recently fallen snow are met with invariably in far greater numbers than in snow which has been on the ground for some time; this, in fact, very often contains only such bacteria as do not liquefy gelatine. 6. That the bacteria of snow originate partly from aqueous vapors which are transformed into snow, partly and chiefly from the air; that is, they are carried away by the snow-flakes on their passage through the atmosphere. — *British Medical Journal*, December 15, 1888.

The Electric Light in Land Warfare.—The *Daily News* states that recently some interesting experiments were made on Hampstead Heath for the purpose of testing the capacity of small electric hand-lamps in searching for the wounded men left after a battle, and thus more rapidly than hitherto bringing the sufferers within reach of surgical aid. The experiments were made by the officers and men of the London Division of the Volunteer Medical Staff Corps, an organization which consists of four efficient companies, largely composed of medical students, and in which a fifth company is now in process of formation. The corps, under Surgeon-Commandant Norton, accompanied by ambulance wagons, and provided with stretchers, halted upon one of the Heath roads at a time when the thick mist hung heavily upon the lower grounds; and having established a dressing-station in a rather dreary-looking spot, poorly sheltered by bare trees, sent out its searching stretcher parties to pick up the bandsmen who had been distributed over the open ground at some distance off, to simulate the wounded left from a fight during the daylight. By the aid of the lamps thus brought into such a use for the first time, the men sought were found with comparative rapidity, and the stretcher detachment were guided back to the collecting station by electric lights at the wagons. The results achieved indicate sufficiently well that the electric light thus used would be of immense value, and tend greatly to reduce the suffering of men left upon the field at the close of a fight.—*Medical Press*, December 19, 1888.

The Influence of Parents' Age upon the Vitality of Children.—MR. JOSEF KÖRÖSI, Director of the Hungarian Statistical Bureau, read a paper upon this subject at the last meeting of the Hungarian Academy of Science, in which he gave the following observations, deduced from 24,000 cases:

Children of fathers under twenty-five are of a weak constitution; children of fathers whose age is between twenty-five and forty years are the strongest, while the offspring of fathers over forty are also weak. The offspring of a mother before her thirty-fifth year are the healthiest; those borne between her thirty-fifth and fortieth year are eight per cent., and those born after her fortieth year ten per cent. weaker. Children of old fathers and younger mothers are generally strong, while those of parents of equal age are somewhat weaker.—*Deutsche med. Wochenschrift*, Dec. 13, 1888.

Professor Roser.—The death is announced of Professor Roser, the eminent surgeon at the age of seventy-one, from the effects of an apoplectic seizure. The deceased had been for many years one of the leading members of the medical faculty at Marburg University, and was the author of several important works, among which may be mentioned *Handbuch der anatomischen Chirurgie* and *Eléments de Pathologie der chirurgicale spéciale et de Médecine opératoire* translated by Culmann and Sengel.—*Lancet*, December 22, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 1 TO JANUARY 7, 1889.

WATERS, WILLIAM E., *Major and Surgeon.*—Leave of absence granted in S. O. No. 129, November 9, 1888, Department of the Columbia, is extended one month.—Par 9, *S. O. No. 2, A. G. O.* January 3, 1889.

By direction of the Acting Secretary of War, FRED. C. AINSWORTH, *Captain and Assistant Surgeon*, will proceed to New York City, and Brooklyn, N. Y., on business connected with the Medical Department.—Par. 20, *S. O. 302, A. G. O, Washington*, December 29, 1888.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING DECEMBER 22, 1888.

HAMILTON, JOHN B, *Supervising Surgeon-General.*—Granted leave of absence for sixty days, December 20, 1888.

BAILHACHE, P. H., *Surgeon.*—To inspect unserviceable property at New York Marine Hospital, December 17, 1888.

WYMAN, WALTER, *Surgeon.*—To proceed to New York City and transfer public property, December 15, 1888.

CARTER, H. R, *Passed Assistant Surgeon.*—Granted leave of absence for fifteen days, December 10, 1888.

MAGRUDER, G. M., *Assistant Surgeon.*—Upon expiration of leave of absence, to proceed to New Orleans, La., for temporary duty, December 21, 1888.

COBB, J. O., *Assistant Surgeon.*—Leave of absence extended ten days, December 14, 1888. To proceed to Evansville, Ind., for temporary duty, December 20, 1888.

STONER, J. B., *Assistant Surgeon.*—When relieved, to proceed to New York City, for duty, December 13. 1888.

GEDDINGS, H. D, *Assistant Surgeon.*—Upon expiration of leave of absence, to proceed to New York City, for temporary duty, December 21, 1888.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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